MAMMALS
IN MANITOBA

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Mammals in Manitoba

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Mammals in Manitoba

The Caribou

THE caribou is known to most people as the reindeer. There are, however, no reindeer in Canada other than the semi-domesticated herd ranging somewhere in the North-West Territory. This is the herd recently trailed across the tundras of the Arctic. They were purchased by the federal government from the government of the United States. Their ancestors originated in Europe. The reindeer is an old world species of the caribou.

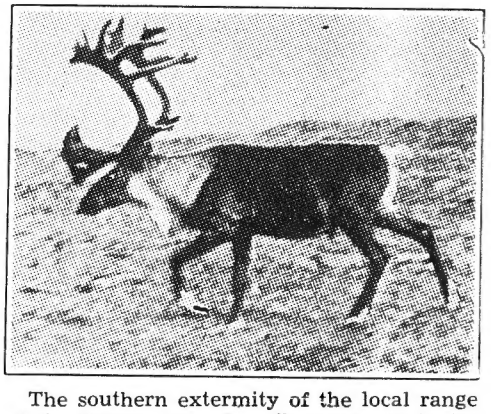
Three varieties of caribou are common to Manitoba. They are the Barren ground caribou, the Woodland caribou and the Richardson caribou. The latter are very much alike.

The history of the caribou is the history of all wild things unfortunate enough to herd in large numbers, thus becoming an easy prey to four-footed enemies and nomadic members of the human race. Samuel Hearne, journeying from the western shores of Hudson Bay to the mouth of the Coppermine River on the Arctic coast numbered the population of the Barren ground caribou as hundreds of thousands. Other later explorers were similarly impressed by herds that took days to pass a given point. Like the buffalo of another age, the Barren ground caribou is migratory, moving northward in the spring even to the islands of the Arctic archipelago, returning southward in the fall. And like the buffalo, they payed the price of massed wandering. Thousands were killed for the hides and flesh, and sometimes, it is said, merely to secure their delicate tongues, a slaughter that even to this day persists in modified form beyond the northern borders of the western provinces. The flesh of the Barren ground caribou is, where procurable, the summer food of the Eskimo, who travels inland from the bleak Arctic coast in search of sustenance and hides for clothing. It is food and clothing, too, for the Indian tribes residing beyond the height of land. Akin to the buffalo, who once roamed the western plains, and the moose, inhabiting our northern coniferous forests, the Barren ground caribou is life itself to the people of the ice and tundras of the north. But Eskimos, Indians and even white men must eat and caribou are often present when other meat is unattainable. Perhaps the fate of the Barren ground caribou will be ultimately sealed, for it seems wherever civilization cuts its devastating swath denizens of a natural world perish on the altar of sacrifice.

The fate of the Woodland variety hangs ever more perilously in the balance, for on account of thinness of population and range, especially in winter, well within the borders of civilization together with a foolish and

Barren Ground Caribou

trustful temperament, they are slaughtered by rifle fire and clubbed to death in snares and traps with an ease sufficient to shame anyone other than a starving man. This is the variety of caribou beloved by sportsmen, not on account of its size, but rather because of peculiar and gracefully formed antlers and a head of beautiful proportions to decorate a fireside and recall memories of exotic days.



The southern extermity of the local range of the Barren ground caribou may be tentatively ascribed to the northern borders of the province. The Woodland caribou's range is confined to north of the 53rd parallel, except during the winter when the line is often crossed, and about the Whiteshell district extending from this locality in a north-easterly direction. Less gregarious than the Barren ground caribou, the Woodland variety is also migratory in the sense that it moves south from a summer range in the fall of the year to pass the winter in deep forested areas. Their numbers do not compare with the vast herds of the Barrens and, for the most part, are small aggregations of family groups.

Caribou fawns are born in April and May at a time when the snows of winter have scarcely melted from the ground. The youngsters are unspotted, although there are indications of small patches of faint white coloration. They remain with their parents until almost a year old.

Nature makes rules only to break them. And so we find that the caribou, including the old world reindeer, is the only member of the deer family in which both sexes are endowed with antlers. The antlers of the female, or doe, are more slender and graceful

than those of the male, or bull. Adult males shed the annual growth, like other deer, after the mating season. The antlers of adult females, though, are not discarded until some weeks after the fawns appear, thus affording a means of defence against four-footed enemies seeking to devour their offspring. Why the female caribou should be the only deer endowed with antlers when females of all species could use them to advantage as a means of defending their young, is a question without an answer.

The antlers of the Woodland caribou are of large size and often weigh as much as 40 lbs. Each of the pair has five or six palmations or flattened areas, in contrast to the Barren ground variety, whose antlers are lighter in weight and characterized by three or four palmations.

In the matter of color, an important item when describing animal life, we find that the Woodland caribou's pith-like hair is mainly a warm brown tinged with yellowish-white about neck and belly with a small white patch about the tail and buttocks and a white band around each foot. The face and legs are darker brown. We further learn that the muzzle, unlike other deer, is covered with hair and that the neck is heavily maned on the underside. The ears and tail are short. In winter the general tone is greyish-brown. The pelage of the Barren ground variety is much the same only noticeably lighter at all seasons.

Weight and measurements are infallible guides when endeavoring to visualize an animal few are privileged to see in life. The male Woodland caribou will weigh from 200 to 300 lbs., and the female 150 to 250 lbs. Males will measure six feet in length, including a four inch tail, and stand 42 to 48 inches high at the shoulder. Females are smaller. The Barren ground variety, characterized by less body size, scale about 275 lbs., are six feet four inches in length, inclusive of a tail measuring six inches. The shoulder height is 42 inches. These figures represent an average of both sexes.

With regard to food habits, it is generally believed that the staple diet of the caribou is moss, but while moss and lichens undoubtedly supply winter food, the foliage of small trees, shrubs and plants are eagerly sought when and where they occur. But a strange appetite often entices wandering caribou from vegetarian provender—the dead bodies of mice and birds and the eggs of ptarmigan and other ground nesting avian species afford dainty tidbits by way of variation. Egg eating caribou are said to be a menace to the survival of the ptarmigan peculiar to the tundras of the north. Why a cud-chewing animal with teeth especially adapted for a vegetable diet should favor flesh and eggs, is difficult to imagine. However, there are many anomalies in nature that we cannot understand.

And speaking of teeth, the caribou, like the elk, possesses two canines, one in each upper jaw. Sometimes, though, they are not present. In any event, they are without value.

In scientific circles, the Barren-ground caribou common to the northern portions of Manitoba is known as Rangifer articus articus (Richardson), and the two Manitoba varieties of the Woodland caribou, Rangifer caribou (Gmelin) and Rangifer caribou sylvestris (Richardson). These and other citations of scientific nomenclature are no doubt of interest to the student who takes his natural history seriously.

Whether or not the caribou in Manitoba will survive the slings and arrows of outrageous fortune, hangs by the threads of fateful chance. Ease of destruction and the use of modern firearms has been responsible for its decimation in the past and will probably sound the death knell of the species in the not far distant future. Conservation and protection is the crying need of the hour, intelligently formulated and vigorously applied. Failing these commendable ideals the caribou of Manitoba will disappear to our detriment and disgrace.

The Black Bear

THE black bear, because of its human-like attributes, is a popular member of our wild population. Like the whisky jack and red squirrel who pester us about our forest campsites, its friendliness lacks the keen appreciation of an inimitable humor. In fact, an entire want of self-consciousness becomes a loveable characteristic when fear of man is no longer a valid reason to escape from his presence.

Where the black bear originated is of little moment, except to say that its family tree has higher branches than that of the human race. Even in childhood days the black bear is a celebrity, for its effigy through the ages has delighted us as a plaything, often creating a latent mistrust of supposed malignant habits that drift along the stream of memory to adolescence and adult life.

As a result of many complex ideas, few who have the opportunity of enjoying the wilderness solitudes have given the black bear the consideration which an appreciative attitude implies. On the other hand, the average person is more prone to procure the nearest firearm with the avowed purpose of destroying an animal whose presence without alarm is generally prompted only by an insatiable curiosity.

It can be said without dispute that the black bear is not dangerous to man except under unusual circumstances. Neither is it a predator in the true sense of the word. Nor-

mally, it is a harmless denizen of our forests, only driven to ferocity in self-defence or through intense physical or mental suffering. Several fatalities have occurred in Manitoba within recent years. All were attributed to maliciousness. However, upon investigation of the facts it became evident that there was some just cause for the bear's attack. One may as easily condemn a breed of dogs for the faults of the few, or nationalities of the human race because an occasional member runs contrary to tradition or custom.

That popular fallacies should exist in regard to the black bear is not surprising. For instance, many old woodsmen still believe that the cinnamon and brown colored bears of our north woods are a distinct species and only a near relative of the black bear. No amount of argument will

Black Bear

convince them that brown and cinnamon are but color phases of the more dominant black. Accordingly, cinnamon, brown and black cubs may be born to black she-bears and cinnamon and brown mothers may give birth to black progeny as well as youngsters colored like themselves. That "like produces like" (with certain reservations) is only a natural law in respect to kind.

The description of the black bear is too well known to merit a detailed repetition, nevertheless, one interesting fact concerning its anatomy is frequently overlooked. Contrary to most mammals, the brain has a distinct convolution which explains the unusual degree of intelligence evident in the routine of its existence.

The black bear differs from the grizzly bear, once present in Manitoba, inasmuch as the latter is heavier, more robust and possesses a "dished in" face and longer claws. The average black bear will weigh from 200 to 500 lbs., and its grizzly cousin from 350 to about 900 lbs. In both species the females are slightly smaller than the males.

Unlike the majority of wilderness creatures the black bear hibernates or sleeps throughout the coldest months. Hibernation is undoubtedly due to the temporary absence of difficulty of securing suitable food and not, as it is sometimes supposed, through inborn laziness or reluctance to share with other forms of life the hazards of a boreal interlude. For the same reason many of our feathered friends seek the environment of sunny southern climes when autumn frosts the woods and marshlands, returning as soon as the verdure of spring appears and insect and other life is resurrected by the all-giving hand of Mother Nature.

In Manitoba, hibernation may commence early in October and last until March or April. Therefore, during the winter months the black bear is conspicuous by its total absence unless found sleeping in a comfortable den.

The black bear feeds greedily before retiring to hibernate and thus acquire masses of fat for absorption during the inactive winter months. The purpose of the accumulation is undoubtedly two-fold: to aid the growth of long silk hair and, in the pregnant females, also create sufficient nourishment in the form of milk to sustain the family increase who make an appearance in mid-winter.

At the first indication of severe weather, heavy eating ceases and snug quarters are sought beneath a rocky ledge or under the up-turned roots of a windfall tree, in fact, any cavity which will permit a blanket of snow to cover and obscure the retreat and retain a measure of body heat within. Prior to denning, the bark of aspen and willow is consumed sparingly. The reason is not fully understood, nevertheless one may venture a reasonable guess and say that the astringent and medicinal qualities the bark contains contracts the stomach for its period of enforced idleness.

The sleep of hibernation is extremely deep, especially in sub-zero weather, and it is only after considerable interference that one can detect animation. During this comatose condition the young are born and, in consequence, it may be inferred that the parent has no immediate knowledge of the event.

At birth the cubs, numbering from one to three, but usually two, are very small, hardly surpassing the weight and size of a fat squirrel. When they come into the world they are naked, and blind for about 40 days. Instinctively they seek the maternal teats to which they cling tenaciously, completely enveloped in the parent's abdominal hair. When two months old baby bears begin to walk, and weigh a little over three pounds. They are usually the first to leave the den after the warming rays of the spring sun have pierced

the mantle of snow covering their retreat, followed, after several days, by a sleepy and hungry mother.

With the advent of the Great Awakening, life once more becomes a fascinating adventure to the black bear. True, there are domestic discords necessitating stern corrective measure generously applied to miscreant and cunning offspring. The punitive adjustment of such difficulties is the most human-like trait of the bear family. To observe a she bear mete out punishment to her cubs is to enjoy to the full many delightful moments.

Not always, though, is an encumbered she-bear desirous of inflicting corporal punishment. On the other hand, she persistently and often guides her progeny away from unpleasant experiences which their majesties the skunk and porcupine unhesitatingly disburse when unduly annoyed or too closely pressed. Thus, they learn of the wild things who share of their domain and so acquire at an early age confidence, fear, or respect of the animate surroundings.

A well know naturalist has said that "the innards of bears are metal lined," and judging from what they eat there is some justification for the assertion. The black bear will eat anything and survive. Carrion, garbage, and other filth is diligently sought and eagerly devoured. And, as if to carry away the delectable odor of the feast, a squirming roll in what remains assures success. There are, however, foods more dainty in the black bear's diet. Luscious berries are combed with upturned claws from loaded bushes growing in abundance on the burns. Bugs, beetles, bulbs, roots, nests of juicy mice, chipmunks and ground squirrels are ever acceptable. Sometimes, too, the abode of the wild honey bee supplies a toothsome addition to an already varied menu.

The range of the black bear in Manitoba is mainly confined to the wooded areas remote from or bordering the haunts of man. It may be seen to advantage in the Riding Mountain National Park where protection has conquered fear and life is at last worthwhile.

Lack of knowledge regarding the admirable habits and traits of wild life condemns many of our forest mammals to wanton and unnecessary destruction. Thus, the black bear, unprotected throughout the year in Manitoba, is far below a normal population and may possibly, in later years, become extinct. Invariably killed by hastily organized posses whenever it appears, and its destruction broadcast and enveloped with the mantle of romance, there is little wonder that its numbers are few. It is the old story of man unrestrained presuming his right to destroy wilfully in order to attain "dominion over all," and, incidentally, a self-appointed place in the sun.

The scientific name of the black bear common to Manitoba is Euarctos americanus americanus (Pallas). It belongs to the order carnivora, the flesh-eaters, and, with all bears, to the family Ursidae. Other local members of the order are: the polar bear, the grey wolf, the coyote, the red fox, the lynx, the bobcat, the raccoon, the skunk, the wolverine, the badger, the otter, the marten, the fisher, the mink and the weasel.

The Polar Bear

THE very name, polar bear, stimulates imagination, conjuring up visions of deep blue Arctic seas and fringing ice floes. The Eskimos, whose domain it shares, call the species nan nuk, but some white men, whom experience has enlightened, are apt to apply the sobriquet "the white terror of the north." Perhaps, though, the term is severe if we believe that the actions of the polar bear are controlled by the same instincts which endow all creatures, human and otherwise, with a full measure of audacity when necessity becomes an urgent need for the maintenance of life.

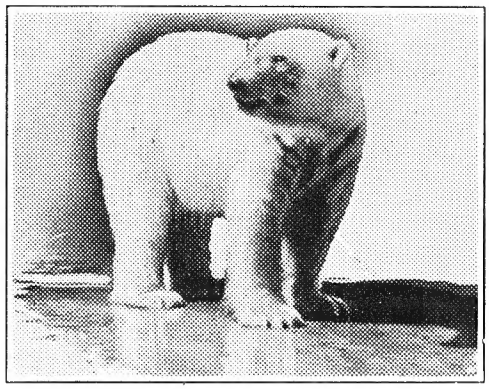
Except for bulk, shape of the skull, color, and the fact that the soles of the feet are haired to prevent slipping on the ice, there is little to distinguish the polar bear from the rest of the bear family. It differs greatly, though, in disposition. For, while our other bears, when denied protection, prefer not the presence of man and make themselves scarce with the least possible delay, their white relative is never at all concerned by his nearness. In fact, when hard pressed for food, they may occasionally stalk humans with no more compunction than they would a basking seal.

With the exception of the kodiak bear of Alaska, the polar bear is the largest North American carnivore. A mature male, when fully developed, will often tip the scales in the neighborhood of 1,200 pounds. Adult females are smaller, weighing on an average 800 pounds. Both sexes are colored alike, with no especially marked seasonal variation. The characteristic white pelage, however, is generally tinted with a sligh yellowish diffusion which, in summer time, turns to a brownish shade that gives the animal a somewhat soiled appearance. The cubs are pure white.

It is believed that all bears, irrespective of species, hibernate to some degree, depending upon the climate or latitude. In any event, owing to the intense cold of the Arctic winter, one would naturally think that the polar bear at least would pass the coldest months in sleep. Polar bears, though, do not generally hibernate, but spend the winter in search of food. The exception is females expectant of progeny, who retire at

the approach of severe weather within the shelter of ice caverns formed by mountainous pressure ridges, and there, securely sealed by windswept snow, remain oblivious to the discomfort and hazards of the outside world. During their slumber the cubs are born. The usual number of offspring is two.

All bears enjoy water and swim with ease, but the polar bear alone is capable of sustained endurance in this element. Ships sailing the Arctic seas frequently overhaul



Polar Bear

them singly and in pairs miles from land or friendly icefloes. Whence they came and whither they went remained a mystery, but that they were capable of obtaining their objective there is no doubt.

Like the bears of Manitoba forests, the polar variety is endowed with an omnivorous appetite, and so is not fastidious about its choice of food. The sea, about which it lives, furnishes the bulk of the supply, and fish, seals and seaweed, with mullusks and shrimps by way of variety, are eagerly decoured. Barren-ground caribou, foxes, birds and carrion supplement the already varied diet in which man, on rare occasions, may be included.

To the hunter of big game, distance lends enchantment to a far-off scene, yet the polar bear has seldom been the object of sport. In the past, the reason was quite apparent, for remoteness from civilization and the hazards and expense of northern travel prevented to a major degree the invasion of their domain. The completion of the Hudson Bay railway, however, now brings the southern limits of the polar bears' range within easy and inexpensive reach, and another game mammal is added to Manitoba's list.

By virtue of its disposition, hunting the polar bear with rifle or camera presents greater sporting possibilities unknown in the pursuit of local game. There is that element of danger desired at all times by the adventurous and intrepid sportsman and photographer of wild life. Both hunter and hunted are about equally matched. Neither are adverse to inflicting bodily harm or death without hesitation. A bullet in a vital spot is the hunter's opportunity; a miss gives advantage to the quarry with possible disastrous results. The cameraman, too, must look after himself.

Many stories are told of "the white terror of the north," hair-raising and fateful; and as the polar bear is the only Manitoba mammal with fortitude and aggression, one may be permitted to digress from the original theme and relate an encounter in the Far North as thrilling as it is tragic.

Not many years ago a party, travelling by dog team down the bleak western shores of Hudson bay, became stormbound on the border of the sea ice. A hastily constructed igloo was erected for shelter, within which the travellers remained until a three-day blizzard abated. In the meantime the dog feed became exhausted, and with the intention of renewing the supply before proceeding towards their destination, one member, armed with a rifle, set out in search of seals. There was little daylight, for the sun almost hugged the southern horizon. Dusk merged into the velvety blackness of the Arctic night without the return of the hunter. His companions, fearful that disaster had overtaken him, followed with difficulty his tracks along the ice hummocks and across patches of drifted, hard-packed snow. Suddenly, it was noticed with alarm that the large footprints of a polar bear mingled tenaciously with the tracks of the hunter. The signs were obvious; the hunter, without his knowledge, had become hunted. At no great distance the prints of the fast-walking animal changed to impressions created by an awkward lope, and the worst was feared.

With increased speed the hunter's companions hurried anxiously, fearful of what eventually would meet their gaze. A few minutes later blood drenched snow, evidence of a brief struggle, and an undischarged rifle, told the prelude of the tale, for human corpse there was none to mutely testify to the finality of the tragedy. A crimson trail, though, led away amid a labyrinth of piled up ice—a trail made by something dragged inertly and with difficulty over a rough surface. The searchers followed in tense haste.

At the end of the gory trail a huge white bear growled menacingly from within the jagged entrance of a glassy cavern. A club-like paw held firmly to the ice the human victim of its prowess. The white fur of its chops was stained with blood. For a moment the mental agony of the situation stunned the horror stricken observers. But, only for a moment. The two rifles spat in unison and the body of the white bear stiffened spasmodically, its life blood mingling with that of its victim. Other true tales could be told of the Polar bear which amplify an audacity almost beyond belief.

The young of many of our native animals may become delightful pets, and Polar bear cubs are no exception. Most of the adult specimens confined in our animal gardens and parks were brought from the Arctic when quite small. The romantic environment of their native home lends color to the story of their capture and transportation far from friendly ice. Only a few years ago two tiny cubs were secured by travelling Eskimos on the western shore of Hudson Bay after their mother had been killed for food. They were taken to the Royal Canadian Mounted Police post at Chesterfield Inlet where they became quite tame. One, unfortunately, was killed by husky dogs.

The other was eventually moved by steamship and railroad to the Canadian National park at Banff, Alta., where it represents today a beautiful specimen of its kind. When a cub at Chesterfield Inlet, nothing pleased it more than to be rowed out to sea sitting in the stern of a boat when, at an opportune time, it would dive into the ice water and swim to shore. There was nothing about this little fellow which showed an antipathy towards man.

Scientists call the Polar bear Thalarctos maritimus maritimus (Phipps). This particular form is found in West Greenland, Ellesmereland, Hudson Bay and the Arctic coast of Alaska. Bears are characterized by 42 teeth.

Racoon and Skunk

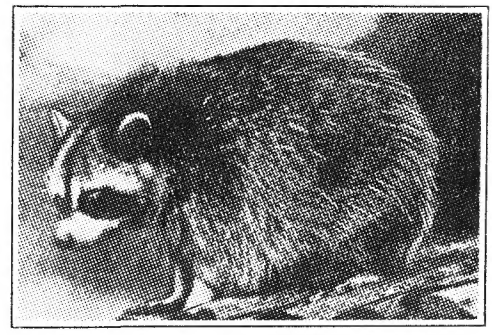
THE raccoon, or coon, as it is most commonly called, is best known to Manitobans in the form of a fur coat, for its lustrous pelts are a welcome addition to one's habiliments when the cold of winter sweeps the prairie of the west.

Many years ago, the raccoon was fairly plentiful in the forest areas below the 50th parallel of latitude, but in recent times the variety common to the province has gone the way of most fur. Now and again it is reported from widely separated areas. However, it is thought that the specimens observed do not constitute a remnant of an original wild population. On the other hand, the evidence of their presence, singly and in pairs, suggests individuals that have escaped from fur farms and adapted themselves to natural conditions.

An extreme fondness for water confines the range of the raccoon to the vicinity of lakes, streams and marshes about which wooded areas are present, for they make their homes in hollow trees and logs, sleeping by day and roaming abroad during the darkest hours in search of food.

The raccoon is omnivorous in its choice of provender and will readily capture and consume almost any creature incapable of resistance, such as frogs, fish, reptiles, small mammals and birds. It also has a liking for eggs, wild fruit and nuts. It is fastidious, too, about its feeding, for whenever possible articles of diet are thoroughly washed before partaken, and even dunked between mouthfuls, a habit readily observed wherever coon are kept in confinement

At the approach of severe winter weather the raccoon hibernates and, in Manitoba,



—Courtesy Hudson's Bay Co.
Raccoon

would not show its nose to the outside world until the warmish days of early spring. From April to May the young are born in the cosy nest the parent occupies. The number in a litter varies from three to six.

In life the raccoon is not unlike a fox until one considers not only a difference in color pattern, but the many things that separate it from an unrelated form. For instance, it has two less molar teeth, 40 teeth in all, the hind feet are plantigrade, the tail is cylindrical and ringed with bands of black, a black band also extends across the forehead and eyes. The average length of the raccoon is about 30 inches including a ten-inch tail. It will weigh from 15 to 45 lbs.

The voice of the raccoon is often heard wherever it abides. Unlike the majority of woodland denizens, it shows little desire to conceal its whereabout, a fact that accounts for its virtual disappearance over most of its northern range. It snarls, barks and churrs. In the silence of the night a long drawn out "whoo-ou-ou-ou," like the call of a Screech owl, is a familiar sound in coon country.

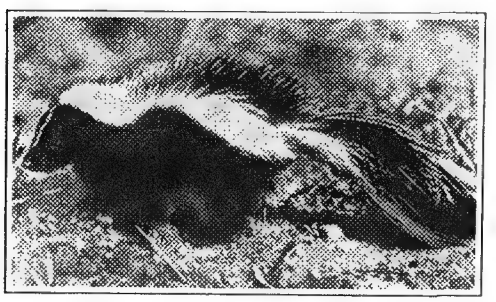
The scientific name of the wild raccoon peculiar to Manitoba is Procyon lotor lotor (Linnaeus). Fur farm raccoons are probably of the same variety. The family name is Procyonidae.

The skunk is also a familiar creature; too familiar, in fact, when contacted closely, as all will aver who have had the misfortune to be sprayed with its scent. The bane of the picnicker and outdoor camper, there is something about the skunk that radiates

confidence in its ability to care for itself, for when a camp is invaded it is the camper who departs, allowing the unwelcome visitor ample time to look around and explore to its heart's content. It is better so.

"All who know me, respect me," would be a fitting phrase to emblazon the escutcheon of the skunk family, an injunction appreciated by humans and forest folk alike. Perhaps this is why the skunk prospers and multiplies exceedingly in Manitoba, as elsewhere. A pelt or two is taken, to be sure, for "Alaska sable" is a well-known fur. Generally, though, the trapper, like all careful folk, prefers to leave his mephetic majesty to its own devices. Which, after all, is not a bad idea.

The scent of the skunk is contained in a pair of glands and discharged at will through tube-like ducts in the form of a fine yellow spray. The spray can be expelled a distance of eight to ten feet in any desired direction, but down wind it will travel much farther. The defence attitude prior to ejecting a salvo is head low and towards the enemy and tail stiffly erect. Then look out, for the skunk is ready to aim and shoot. And don't forget that one discharge does not exhaust the supply of ammunition.



Northern Plains Skunk

What to do with clothes impregnated with the odor of skunk may be a question encroaching upon the sphere of domestic economy. However, the writer's advice, born of experience, numerous recipes to the contrary, is to bury the offending garments beneath two feet of soil and forget the whereabouts of the grave.

Why one should use the epithet, "You dirty skunk!" when speaking of a person one desires to disparage is at least unfair to a very cleanly creature capable of becoming a playful and affectionate pet. There is always the danger, though, that it will forget itself when confronted with situations foreign to a domestic life, a matter worthy of consideration should one be tempted to experiment. However, a minor operation renders the skunk inocuous.

Skunks are a useful addition to any wildlife population of the agricultural areas and worth much more as an inveterate destroyer of rodent and insect pests than the few cents their pelts will bring for fur. True, they occasionally kill poultry carelessly guarded against enemies, but a chicken once in a while is small payment for the good deeds they perform.

A detailed description of the creature is unnecessary. If one is not acquainted with the "pussy of the woods," a few words will suffice as an introduction. Whenever you see a black and white animal about 30 inches long and about nine pounds in weight, with a large bushy tail and small head, who seems in no hurry to make itself scarce, you may be quite sure that a skunk is in the offing.

Young skunks are born in late April and early May, and number from four to ten in a litter. The den is usually a hole in the ground or beneath some old building which may or may not be occupied.

The skunk common to Manitoba is the northern plains skunk, known to science as Mephitis hudsonica (Richardson). Its family name is Mustelidae. The northern plains skunk has 34 teeth.

Wolverine and Badger

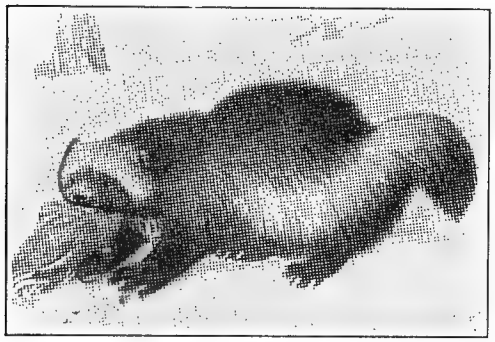
THE wolverine is an animal credited with many misdeeds, based on fact rather than imagination. Yes, there is ample evidence to convict at least one creature of the wilderness of depredations committed with evil and malicious intent. Thus the wolverine may well be called the despair of the trapper, driven to desperation by an animal that shows its resentment to human invasion of its forest home by robbing, scattering and fouling his caches and destroying trapped fur. It will even overturn and bury his unsprung traps and destroy those not made of metal. Yes, the wolverine is truly the villain of the woods, spectre-like and difficult to kill. Wherever it abides and commits its nefarious deeds, either the trapper must seek fields of fresh endeavor or the wolverine be destroyed.

There is nothing backward about this unwanted denizen of the north woods, who shares with the skunk, but not for the same reason, the respect of all wild folk. It is said that even the bear gives way before its presence. But not without just cause, for the wolverine will without hesitation attack deer and caribou, and cases are on record of moose falling prey to its aggressive wrath.

The wolverine is also accused of gluttony, hence it is sometimes called the Glutton. As as matter of fact, though, it is no more gluttonous than the average forest flesh-eater, who eats to distention at every opportunity. This may be considered greediness, but heavy eating is no doubt prompted by not knowing when another meal will ap-

pear. Experience, perhaps, has taught even wild creatures to make the most of fleeting occasions for a distended stomach is better than one half filled.

The Manitoba home of the wolverine is the forest areas beyond the borders of civilization. In consequence, the wolverine is



The Wolverine

seen by few. It is the largest member of the weasel family, which includes the weasel, the marten, the otter, the mink, the skunk and the badger. Heavily haired, short and squat, male wolverines will weigh from 35 to 40 pounds. The color pattern is dark brown to almost black, with two brownish-white lateral bands extending from behind the shoulders to the rump, where they meet. The tail is fairly long and bushy.

Female wolverines may give birth to as many as five youngsters, born, in Manitoba, from June to July in some natural cavity hidden from all inquisitive eyes.

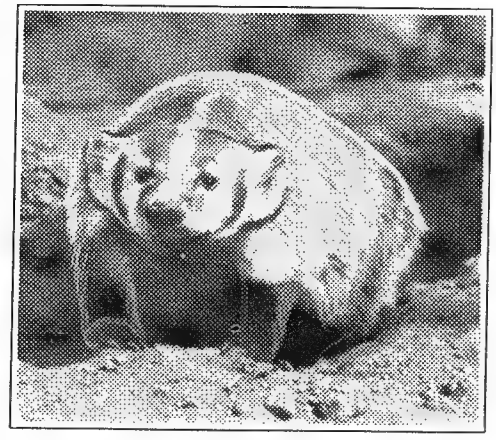
The wolverine is known to science as Gulo luscus (Linnaeus), and is endowed with 38 teeth. It is also known to the woodman as the skunk-bear and carcajou. It is feared by the beaver as the only animal capable of penetrating, during the months of winter, the concrete hardness of its lodge. If persistence is a virtue, the wolverine at least is entitled to a small measure of admiration, for the labor and patience required to hole a beaver lodge in sub-zero weather deserves comment and credit where credit is due.

The Badger is another wilding cursed with a bad name because of a habit of enlarging the holes of ground squirrels in order to capture the occupants for food. Ranchers, in the days when badgers were prevalent about the prairies of the west, roundly denounced this efficient animal excavator, for the feet of fast-moving saddle horses would trip in the holes and their riders would be thrown to the ground and often injured. The badger is still persecuted, usually for no just cause, in regions where cattle ranches have given way to barbed wire fences and furrowed fields, persecuted without thought of its value as a persistent destroyer of rodent pests detrimental to the interests of agriculture. Thus, it passes slowly, but surely from the scene, mainly because where beards are taboo shaving brushes become a necessity. And badger hair, it is said, supplies bristles whose texture is the acme of perfection.

Many incidents are related regarding the badger's ability to disappear beneath the ground, a feat that none will deny who have witnessed its swift technique. When alarmed it immediately seeks the nearest burrow, which sometimes is of insufficient depth to afford protection. But this is of small concern, for amid a cloud of earth loosened by sharp front feet and scattered to the rear through the medium of the hind feet, it literally digs itself in before one's eyes. Finally, no earth appears. This, though, does not infer that progress has ceased, for, then, loosened earth is cast behind, forming a barrier to hinder the efforts of a pursuing enemy. And once inside, spading is futile, because a badger can dig faster than a human being.

The badger is also an excellent fighter, endowed with courage and tenacity, and more than a match for the average dog. It holds fast to life and is difficult to kill.

It is safe to say that relatively few badgers remain in Manitoba, mainly because badgers and men do not agree. In earlier days the open plains of the southern and central parts of the province pro-



Badger

vided a generous habitat. In recent years, however, there has been a tendency for the remnant of the species to migrate northwards to occupy areas in the neighborhood of trees where, no doubt, they will make their last stand against the inroads of civilization.

The low, squat form of the badger moving close to the ground, without the ap-

pearance of shifting feet, provides immediate identification. In general color the badger is silvery grizzled-grey, with a white stripe across the centre of the head, a white patch about the eyes and a whitish spot on each ear. The total length of the average specimen is about 28 inches, including a bushy tail five inches long. They will scale from 12 to 14 lbs., but weights up to 20 lbs. and more are not exceptional.

At the approach of winter, badgers hibernate in a cosy den below frost line and are not seen again until spring returns. Like other hibernators who do not break their sleep to feast upon stored-up food, they subsist by the absorption of accumulated fat. From one to four young are born in late May or early June.

The scientific name of the badger common to Manitoba is, Taxidea taxus taxus (Schreber). The species is supplied with 34 teeth.

Mice

AMONG North American mammals, mice hold the distinction of being the most common species. From the Arctic seas to the Rio Grande; from the Atlantic to the Pacific, scarcely an area exists that does not support one or two varieties of these interesting little people. Without their presence many creatures would cease to live, for rabbits and mice are indeed the "bread of the wilderness."

Native mice belong to the family, Cricetidae, a family that does not include the house mouse and domestic rat, because these forms were introduced from the Old World on the heels of American civilization. Native mice are characterized by possessing 16 teeth, varying slightly in structure.

During our visits to the woods and countryside there are few among us who have not at some time come upon certain of these little people startled from underfoot or, when casting fear to the wind, an intrepid specimen visited camp in search of food. We admire them. Perhaps we unnecessarily destroy them as noxious things. Seldom are they considered worthy of a moment's study.

There is hardly a portion of Manitoba where native mice can not be found if shelter and rodent food is available. Tundra, forest, meadow, prairie and bushland support their quota. To the casual observer a district may seem devoid of life that prefers the ground, but close investigation will reveal evidence of occupation. Beneath the tangle of meadow grass runways can be found; about brush piles and boggy places paths worn smooth by tiny feet stand out like miniature highways, and under the trunks of fallen trees signs of these little creatures reveal themselves to the curious. When winter comes, tunnels beneath the snow divulge where questing mice scurry here and there in search of food, and balls of hay and leaves buried deep in some friendly drift tell of sheltering nests wherein to slumber when hunger is appeased.

The White-footed mouse, or Deer mouse, he of the creamy white underparts, white feet, big ears, long tail and large expressive eyes, is undoubtedly the most handsome of the little people. This is the sprightly chap who invades our woodland camps and cabins when darkness falls, boldly seeking crumbs and other titbits. He arrives with almost alarm clock precision and leaves without fuss when his search is ended. Whitefoot, if you wish, will become as friendly as the saucy Whisky jack or the bold frisky squirrels that regale us with their impertinence. Mark him well when next you meet, for he will make an interesting addition to your wilderness friends.

The White-footed mouse is represented in Manitoba by three sub-species—the Boreal

Meadow Mice

White-footed mouse, Peromyscus maniculatus borealis (Mearns), the Baird White-footed mouse, Peromyscus maniculatus bairdi (Hoy and Kennicott) and the Labrador White-footed mouse, Peromyscus maniculatus (Wagner). They differ slightly in color.

The Red-backed mouse, often a habitat companion of Whitefoot, is abundant in nearly all parts of the province where trees grow. The Red-backed mouse has small beady eyes, short tail and ears showing just above the fur. A broad reddish band adorns a slaty colored back from crown to base of tail, hence the name. This little mouse is shy and evasive and seldom visits the habitations of man, although he has a liking for sheds and stables. The Redback is handsome, too, in a quiet drab way.

Two sub-species of the Red-backed mouse occur in Manitoba—the Gapper Red-backed mouse, Clethrionomys gapperi gapperi (Vigors) and the Loring Red-backed mouse, Clethrionomys gapperi loringi Bailey.

Another ubiquitous fellow is the humble Meadow mouse. The long, loose pelage of the Meadow mouse varies from chestnut-brown to yellowish-chestnut and slaty, with

ashy-grey underparts. These features, together with a shoddy unkept appearance and comparatively short ears and tail, place Danny of bedtime story fame apart from the other mice whose domain he often shares. Like the Redback he is shy and shows no preference, even in winter, for the friendly comfort of buildings. Sometimes, though, he will condescend to reside almost at one's door if not molested.

Two sub-species of the Meadow mouse belong to the province — the Drummond Meadow mouse, Microtus drummondi (Audubon) and the Least Meadow mouse, Microtus minor (Merriam).

The less abundant and not so well distributed Jumping Mice, next to the White-footed mice, are the prettiest of the little people. They may be instantly recognized by their long tapering tails, short front legs and elongated hind feet. They are sometimes called Kangaroo mice. Two sub-species exist in Manitoba, the Prairie Jumping mouse, Zapus hudsonius campestris Preble and the Hudson Bay Jumping mouse, Zapus hudsonius hudsonius (Zimmerman). Jumping mice are an exception to the general run of native mice inasmuch as they possess 18 teeth. The Woodland Jumping mouse, however, a native of eastern Canada, has 16 teeth, an exception within an exception. Jumping mice, because of this and other things, belong to a family by themselves, the Zapodidae Both sub-species are colored the same, a mixed yellowish fawn with slaty underfur. These graceful creatures show a preference for meadows

White-footed Mice

and other grassy places near water, and often reveal themselves when they leap from cover frightened by an approaching footstep. Their means of progression is a series of jumps which explains the name, Kangaroo mouse. Unlike our other native mice, Jumping mice hibernate at the approach of cold weather.

Another interesting Manitoba mouse is the Grasshopper mouse, a chubby fellow with comparatively, short, thick tapering tail. He is clothed with dark drab-brown fur and has white underparts. Unlike our other mice, who are vegetarians, the Grasshopper mouse prefers a diet of insects with an occasional mouse by way of variety. The local form is the Maximilian Grasshopper mouse, Onychomys leucogaster leucogaster (Wied) Grasshopper mice live on the open plains and are not found in the forest.

Two other mice are common to Manitoba, the Richardson Lemming mouse, Synaptomys borealis (Richardson) and the Richardson Collared lemming, Dicrostonyx rubricatus richardsoni (Merriam). The former is very much like a small Meadow mouse and is found only in the northern parts of the province. The latter has the distinction of being the only mouse that turns white in winter. The summer pelage of the Collared lemming is grey in color. It occurs in the neighborhood of Fort Churchill.

Wolves and Foxes

DEFAMED as it is in story and song is there any wonder that the Grey Wolf has earned an evil reputation. Most of the verbal slings and arrows hurled against its person, however, are ungenerous and untrue. It is not a coward, unless cowardice is measured in terms of self-protection, neither is it a hungry hunter of men as certain eastern newspapers would have us believe— sophistry, cowardice, or an exaggerated fear of animals are perilous to truth and the fruitful seeds of imagination. That the grey wolf will follow the northern traveller when the snows of winter are deep, few will deny, but with what motive nobody knows unless, under the cover of darkness to attack and kill a sleeping sleigh dog in order to fill an empty stomach with much needed food.

The grey wolf of the plains has been so assiduously hunted that few, if any, remain in Manitoba. In the early days it followed the buffalo herds, and virtually disappeared from the prairies ahead of the tide of settlement to harass the ranch stock of the unsettled country beyond the boundaries of cultivation. A penchant for cattle and horse meat sounded its death knell. Denied a natural food supply the grey wolf of the plains, like other creatures of an almost forgotten era, became a wilding with no place in man's economic scheme.

Many true stories are told of Lobo, for so he was often called by the people of the old west, stories of poisoned baits picked up one by one along a poison trail and dumped and soiled in approved canine fashion, of overturned traps and poisoned carcases left untouched. Sagacity was an attribute it possessed coupled with fleetness of foot, shared by its blood brother of the northern Manitoba forests who did not fall heir to a similar fate and who exists beyond the haunts of man.

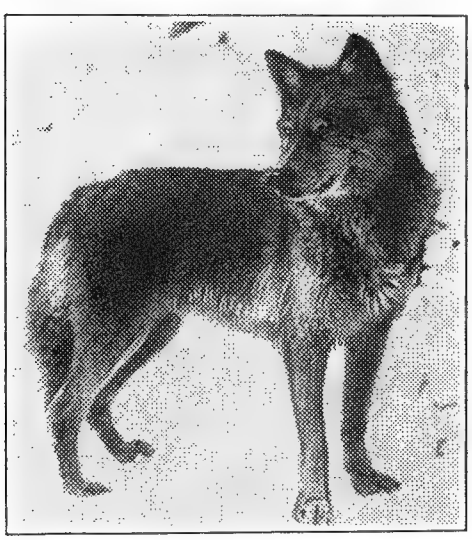
The color pattern of the grey wolf of the forest is as its given name implies, except that occasional individuals may be a dark

bluish-grey or almost black. The average length of mature males is some 56 inches, including a 16-inch bushy tail. They weigh between 75 and 110 lbs. Females are somewhat smaller.

Grey wolves hunt in packs, generally composed of family groups and display wonderful team work when in pursuit of large prey. Their technique when engaging moose or caribou is to sever a hamstring to render them comparatively helpless, and then with slashing cuts upon the throat, bleeding their victims to death. But deer are not the only food of the grey wolf, for in times of plenty the snowshoe rabbit, and even mice and birds, constitute the bulk of its diet. It is only when the normal food supply fails that larger game is sought. This cycle of events is governed by a natural law, a law necessary in wilderness economy if the wild folk are to survive as species and prosper accordingly.

The young numbering from 3 to 13, with an average of 6, are born from early March to the beginning of April in dens within a hollow log, a hole in the ground, or some miniature cavern carved by nature in the rocky country covering much of their range. At birth the pups are blind and remain in this condition until the ninth day. Both male and female are devoted parents, the male assisting to feed and rear the pups.

The voice of the grey wolf once heard is ever remembered, a voice that causes goose-



Gray Wolf

flesh to rise on the human skin and send cold shivers down one's back, an unconscious fear inherited, no doubt, from cave-dwelling ancestors when man and nature were closer than they are today. The usual call is a long smooth howl much like the howl of a husky dog. Another commences in a high pitch and vibrates on two notes. A third is a combination of a short bark and a howl uttered when on the hot scent of the hunting trail.

The coyote of Manitoba, the Brush wolf or Northern coyote, is a smaller wolf and somewhat different habits and with more savory repute. This little wolf is well known to all country dwellers. Too well known, in fact when sheep are killed and poultry yards raided in the dead of night. Like its cousin the late grey wolf of the plains it has no place where agriculture predominates. In the forests and untenanted woodland areas it serves an appointed purpose to scavenge the bush of carrion and hold in check countless hordes of small creatures which would eventually destroy a wilderness without the aid of its kind.

The brush wolf or northern coyote may be described as a small slender wolf much like a shepherd dog with a fairly long and heavy coat and large bushy tail. The general color is a grizzled-buff sometimes inclined to sandy with some dark hairs along the back. The tip of the tail is black. The pelage of youngsters is somewhat lighter. Adult males will scale from 35 to 40 lbs. and measure 36 inches plus a 16-inch tail. Females are smaller.

As to food, the coyote is not particular. Besides carrion, of which it is extremely fond, and poultry, occasionally pilfred from the barnyard, small mammals, insects, wild fruit, snakes, frogs and birds are sought and devoured. It is not inclined to hunt in packs.

The young are born in April with five to seven in a litter. The den is usually some natural hollow, but frequently holes are dug on level ground or in some soft bank where digging is easy. On occasion the dens of smaller animals are enlarged.

Whatever one may say against the coyote, his high pitched canine voice joined in unison and discordantly with others of its kind from far and near is music to the ear of the nature lover. Loneliness, hunger, love and a multitude of emotions is expressed in its frenzied hymn to the moon and evening sun, a series of howls and yapping barks that echo through the woods and across the broken country about its range. Many wilderness areas would seem dead without its presence.

The scientific name of the grey wolf or timber wolf inhabiting Manitoba is Canis nubilis occidentalis (Richardson) and the northern coyote or brush wolf, Canis latrans (Say).

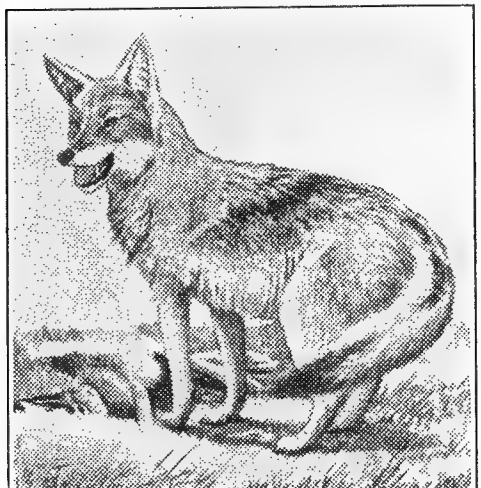
The Red Fox is too well known to naturalist and layman alike to warrant much introduction. Fable, bed-time story and its age-old reputation as a cunning creature have made it a well known denizen of the wild in countries where it does not even exist. It is seldom observed, though, in a state of nature, as it is most active at night, a fact that poultrymen often learn much to their chagrin and dismay.

In Manitoba, as elsewhere, the red fox prefers sheltered country and does not live on the open plains. It is not, however, a resident of deep and heavily timbered areas unless semi-open country is thereabout.

It is still a popular belief that the various colored foxes whose fur is a common addition to local markets are separate and distinct species. This is incorrect, for all are merely color phases of the red fox. Thus, a female red fox may produce different colored puppies—cross, black and silver—in the same littler. These in turn may produce all red progeny or an occasional specimen of either color variety. Selective breeding in confinement alone permits the production of desired color varieties true to parental hue, a fact that sometimes gives rise to contrary opinions when forest bred foxes are concerned.

The common pelage of the Red fox is the red phase, a bright golden-yellow, darker about the centre of the back with greyish rump. The rarest under natural conditions of existence is the black phase, known as the Black fox. The Silver fox is the black phase with more or less silver-tipped hairs. The cross or Cross fox is intermediate, reddish-yellow above except for a dark band across the shoulders, which with a darkish stripe along the back forms a figure like a cross.

The Red fox has several characteristic calls, the commonest of which is a squalling



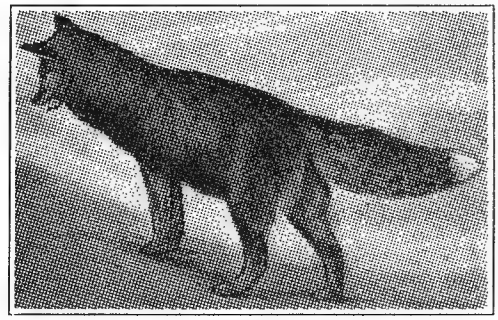
—Courtesy Hudson's Bay Co.

Coyotte

yowl and a short yapping bark. Its food is much the same as preferred by the coyote, except that carrion is not a favored part of the menu. The young are born in March or April and number from 4 to 9. Both parents share in the care of the family.

Scientifically the species common to Manitoba is known as Vulpes regalis Merriam, and is the largest of the New World foxes.

Manitoba is favored with yet another fox, a very small member of the family, pre-



—Courtesy Hudson's Bay Co.

Red Fox

ferring open plains for a habitat—the Kit fox, or Swift. It is but 17 inches long exclusive of a 9-inch tail, and colored a buffy-yellow lightly frosted with light-tipped hairs and sprinkled with black. This little fox is almost locally extinct. It was fairly common in south western Manitoba some 10 years ago.

The Kit fox of Manitoba is Vulpes velox velox (Say). Foxes and wolves belong to the same family, the Canidae, or dog family. They are characterized by 42 teeth.

Lynx and Bobcat

THE forests of northern Manitoba are the local home of the lynx, a mammal seldom seen but often captured by the trapper in his quest for fur. Its large cat-like tracks are familiar to every woodsman wherever it exists, tracks made by feet with retractile claws capable of bearing the animal on the surface of deep snow.

Tales are told of this feline creature alarming in their import but, in reality, innocent of guile; tales of men being followed along lone bush trails when winter blanketed the forest with a pall of white. At least, that is what the signs were said to portray. But curiosity, rather than a motive with malevolent intent, no doubt prompted a lynx to follow footprints that were strange and drenched with an odor it could not understand, for the lynx is harmless to man and fears his near presence with just cause.

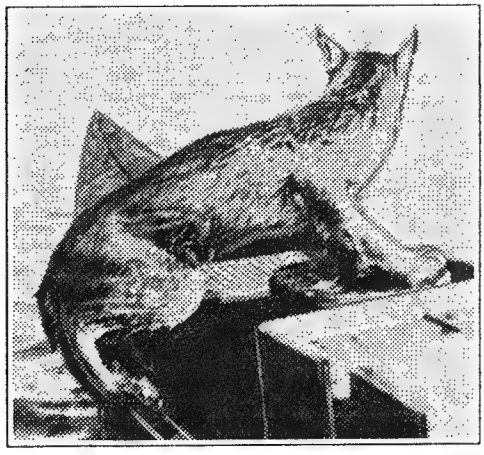
"No rabbits, few lynx", is an old saying in the north woods. True, too, for the snowshoe rabbit supplies the bulk of its

food. Records kept over a number of years by the Hudson's Bay company tell that in seasons of rabbit abundance more lynx pelts are secured, and when the rabbit population diminishes, lynx become comparatively scarce. In this respect the lynx is an important factor in forest economy. Rabbits on account of their super-abundance every nine to eleven years, would do untold damage to forest growth were it not for predators who feast upon them and prosper accordingly. Like the wolves and foxes who also assist in rabbit control, the lynx unconsciously assumes the role of executioner, and from what we learn devours many more than even their hungry stomachs collectively hold when winter comes.

Cat-like tracks suggest a cat-like animal which, in fact, the lynx is. But for its long legs, big feet, tufted ears and short tail it resembles a large edition of the domestic feline. Its hunting habits, too, are similar, cautiously stalking, crouching, ending in an agile spring when in striking distance of its prey. There is one marked difference, however, for the lynx takes readily to water, while its smaller cousin, the house cat, will walk a mile to avoid an inch-deep puddle, and is miserable even in the rain.

The general winter color of the lynx is a pale grizzled grey, combined with a mixture of brown and black. In summer the pelage is of a browner shade. A prominent ruff encircles the neck.

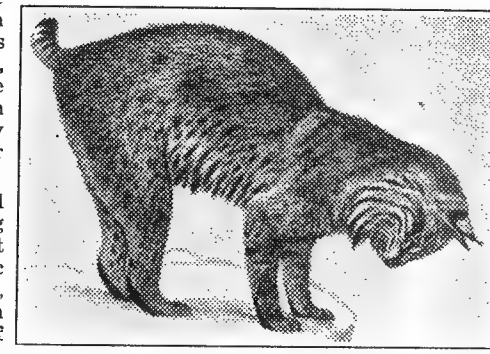
Adult males will weigh from 35 to 40 lbs. and measure 35 to 40 inches in length, including a four-inch tail. The female, as in nearly all mammalian species, are smaller.



Canada Lynx

The lynx is a solitary animal, except at mating time, and is untroubled by enemies of the wild. It is wary, too, and difficult to observe, preferring the cover of darkness rather than the light of day.

Although the snowshoe rabbit constitutes the bulk of its diet, other prey is not disdained. Instances are on record of deer attacked and killed by lynx when deep snow hampered their escape, and of foxes cornered and beaten in an unequal fight, who left as mementoes of the fray pieces of blood-soaked



—Courtesy Hudson's Bay Co.

Bobcat

fur and bones picked clean of meat. Squirrels, birds and mice are not disdained.

From March to June, depending upon latitude, from one to four kittens are born within a hollow log or any place capable of giving shelter and isolation. At birth the kittens are blind like any other infant cat and differ in color from their parents inasmuch as their pelage is spotted and streaked with black and brown above a ground color of light fawn. Like all young cats, irrespective of species, they enjoy rough and tumble play and learn in infancy a hunting technique that serves them well in days to come.

The voice of the lynx is a typical forest sound and immediately identified even by the novice. Imagine the vocal efforts of the prowling alley cat magnified many times and you hear the many calls of the lynx. It mews, yowls, caterwauls and howls, solo and in duet, when in the presence of a prospective mate or engaged in scuffling combat with contesting suitors.

The lynx of Manitoba is known to science as Lynx canadensis canadensis Kerr, and is one of three species of a group common to North America.

A smaller edition of the lynx, the Bobcat or Bay lynx, is also a resident of the province. It is smaller than the lynx proper and has untufted or slightly tufted ears. Its pelage is brownish and spotted instead of pale grizzled grey, with slight indication of a ruff. The total length of the average bobcat is about 36 inches, including a 7-inch tail.

The bobcat is more like the domestic feline than its larger relative. But for its longer

legs and shortish tail, it is a much enlarged duplicate of the familiar Manx variety of the fireside. It has, of course, greater potentialities as a killer.

The habits of the bobcat are similar in every way to those of the lynx. It prefers, however, warmer latitudes and more open country than afforded by the sub-arctic forests and may be found close to settlements that are bordered by virgin cover. Unlike the lynx, who retreats ahead of civilization, the bobcat adapts itself readily when man appears to share its domain, and has thus become a predator of domestic stock even to the size of a sheep. Its natural food is composed of birds and small animals, and possibly young deer. The number of young is from two to four, born in April or May.

The scientific name of the Manitoba bobcat is Lynx rufus, rufus (Schreber). Both the lynx and bobcat are members of the cat family, Felidae. They possess 28 teeth.

Bats, Moles and Shrews

IT is not so many years ago that bats were believed to be birds because they fly, for flight and birds were inseparable to the earlier naturalists before the classification of living things was arranged by Gesner and later by Linnaeus. Bats, however, are the only mammals that propel themselves through the air by means of wings.

The life history of the bat—there are many species—is as interesting as it is sometimes obscure. Where, for instance, do the five kinds of bats common to Manitoba pass the winter? Do they hibernate, or migrate to warmer climes when the flying insects upon which they entirely subsist are killed or made dormant by the cold of winter? Some day we may know. In the meantime, we will presume that they leave us at the first hint of frost which, after all, is the most sensible thing to do.

Bats are creatures of the dusk. It is only at twilight that we may observe them flying some forty feet above the ground in search of prey. Their whereabout in the daytime is often revealed when roosts are discovered in attics, dark corners of old buildings and holes in trees populated by one to congregations of twenty or more, for in such places they pass the brightest hours, suspended upside down. Bats are often called "flittermice" on account of their mouse-like fur. They are often known by other names less complimentary.

The wings of the bat are not true wings in the sense that a bird's wings are. They are composed of a naked membrane stretched between elongated fingers, a membrane attached to the arms and sides of the body and terminating at the hind legs. The toes are free, and by these the bat hangs himself to rafters or whatever is available. Two thumbs serve as hooks. When the young arrive they cling to their mother's fur until able to care for themselves, accompanying her wherever she may go.

No, bats are not blind, consequently the old saying, "as blind as a bat," is just another misconception. But whether they use their eyes or not, they have some sense of direction we do not understand.

The family to which the Manitoba bats belong is entirely insectivorous in contradistinction to some families who subsist upon fruit. Our local bats are quite harmless. They do not suck blood from sleeping children or commit the many insidious deeds attributed to bats, irrespective of species. However, one small family does live on blood abstracted from living victims, human and otherwise. They belong to South America.

The Manitoba bats are five in number—the Little Brown bat, Myotis lucifugus lucifugus (Le Conte), with 38 teeth, the Big Brown bat, Eptesicus fuscus fuscus (Beauvois), with 32 teeth; the Silver-haired bat, Lasionycteris noctivagus (Le Conte), with 36 teeth; the Red bat, Nycteris borealis, and the Hoary bat, Nycteris cinerea (Beauvois), both with 32 teeth. And this is one instance where teeth come in, for by color and dentition you may know them. The order to which bats belong is, Chiroptera.

There is only one mole in Manitoba, the Star-nosed mole, Condylura cristata (Linnaeus), so called because of a peculiar fleshy nasal fringe of 22 points, arising from a naked nasal disc like the snout of a pig. This characteristic immediately identifies the animal whenever it is seen, which is not very often. The Star-nosed mole is clothed with blackish-brown fur of velvet texture incapable of being brushed against the "grain," and like all moles possesses paddle-like front feet and tiny eyes. Like the Pocket gopher, and other moles, it is endowed with tactile nerves at the end of its tail to permit movement in "reverse" with knowledge of what is "ahead."

This creature prefers damp marshy places for a habitat. It occurs in Manitoba from the southeast part of the province in a northwesterly direction to the neighbourhood of Dauphin and beyond, covering a relatively narrow strip of terrain. The burrow of the Star-nosed mole is similar to the common mole found in eastern Canada, the soil is pushed aside in the making instead of being brought to the surface, except when excavating a living chamber deep beneath the ground. The narrow rises marking its underground course, however, are irregular and often terminate in a hole where the animal leaves the burrow and wanders abroad, a

trait possessed by no other species of mole except at mating time. Even in winter its tracks may be seen in the snow.

The purpose of the Star-nosed mole's surface furrow is mainly to find worms and the larvae of insects for food, for vegetation is no part of its menu. It, however, travels farther afield and will boldly enter water in search of insect and other life capable of being captured and devoured.

The Star-nosed mole is a member of the order, Insectivora, the insect eaters, an order that also includes the Shrews. It is endowed with 44 teeth and is only represented by the form common to Manitoba. The family name is Talpidae.

The shrews, on the other hand, are a numerous family varying greatly in size, voracious little hunters of insects and other animal food they are able to capture, Shrews, although never plentiful like mice, are well distributed over Manitoba where cover and other preferences are available. They are seldom seen, and one would never know of their presence in a locality but for specimens found dead or caught in traps set for the purpose. The pelage of shrews is velvet-like in texture, quite unlike the covering of mice, by which name they are often erroneously called. They are, of course, an entirely different creature with sharp, mobile snouts, tiny eyes and ears buried deep in. fur. A further difference is the number of teeth they possess, amounting to 32, twice the aggregate allotted to the mice who, with the exception of the local Jumping mice, have only 16. There is yet another discrimination, for the teeth of shrews are of a different character, designed to kill living prey and crack little bones and the hard shell cases of certain insects, rather than reduce vegetation for food. The difference in dentition, however, applies only to the shrews of Manitoba, because some who reside elsewhere have fewer teeth.

The commonest local form is the Hayden shrew, Sorex cinereus haydeni (Baird), a small sepia-brown fellow four inches long, usually found wherever meadow mice occur. A close relative, the Richardson shrew, Sorex articus articus (Kerr), is slightly darker in color and a little larger in size. It frequents more open country.

The Water Shrew, or Black and White shrew, Neosorex palustris (Richardson), is the prettiest of the Manitoba shrews, black above and white below, with a bicolored tail. The Water shrew, as its name suggests, is an inhabitant of streams and ponds, and is specialized for an aquatic existence by possessing large, broad feet, the hind members fringed with stiff hairs as an aid to swimming. The local Water shrew measures about six inches long.

Best known of the local forms is the Short-tailed shrew, Blarina brevicauda brevicauda (Say). The shrew is the largest of the Manitoba varieties and is very much like a small mole. It is the greatest hunter among the shrews and is seldom found in areas where mice are not abundant. The pelage of Blarina is a dark slate-grey. The average specimen measures about five inches long.

The Pygmy shrew, Microsorex hoyi hoyi Baird, is the smallest of the quintette and the smallest North American mammal. It is sepia-brown in color and measures three inches in length. This little shrew cannot be distinguished from the Hayden shrew until its teeth, which differ slightly in arrangement, are examined. The family name of the Shrews is, Soricidae.

With the exception, perhaps, of the Water shrew hibernation does not take place, and so shrews are active through the year. Their purpose in nature's scheme is to assist in controlling the insect population and, incidentally, the ubiquitous mice.

The Moose

WHEN the ancients of the Indian tribes inhabiting the forests of the north refer to the moose as "brother," they do so because of a just belief that all wild creatures are an integral part of the wilderness to which they also belong There is, however, a further design not untinged with veneration and a knowledge of a natural and inexorable law which decrees that no life can exist without death. Is it any wonder, then, that its slaughter is preceded by an apology, poetic in its interpretation and remorseful in its import.

The importance of the moose to the Indians of the north is akin to what was once the value of the buffalo to the Indians of the plains, for it not only affords a generous meat supply, but provides a tough skin especially favored to fashion footgear, clothing and a variety or articles for domestic use. To the white sportsman the moose offers a trophy worthy of the chase, enhanced with unforgetable memories of exotic days in the great outdoors.

The moose needs no description to those who are fortunate enough to invade our coniferous forests during the several seasons of the year. The appearance of its grotesque and ungainly form crashing through the underbrush leaves no doubt in an inquisitive mind that whatever fine points it may possess, beauty is not a predominating feature. In fact its broad muzzle, pendulous and inflated nazal pad, large ears and hanging growth of skin called the "bell" is in striking contrast to the other more graceful members of the deer family to which the moose belongs. Nevertheless, in spite of its unique appearance there is a suggestion of massive strength that more than overcomes any lack of beautiful proportions.

It is only during the mating season when chill winds and eddies of swirling leaves foretell that winter is near that the characteristic call of both male and female is heard echoing through the forest and across the lakes and open places. Once the voice of the moose is heard it is never forgotten. Try to imitate the sound if you will. There are few who succeed, and moose are easily fooled. Cow moose usually call in the early morning and late evening, but in dull weather they may be noisy at all hours of the day. The voice of the male, or bull moose, is seldom heard except in answer to the lovelorn plaint of the cow. The cow's call reduced to words is a long drawn out "mou-wough-yuh," commencing on a high note and gradually descending in the scale. The bull's vocal ability is confined to a hoarse grunt: "Ooo-oo-ah." There are, of course, many other noises peculiar to moose; grunts, rattles, snorts and mild whistles, but just what they seek to convey, nobody knows.

Moose

In many parts of Canada, especially the east, calling moose during the mating season is a favorite method, when hunting is permitted, of securing an easy bag. However, it would seem that the cleaner thought and cleaner sport which the grandeur of the wilderness should inspire would ably assist to cast aside the deceits which surround us, prompting a desire to acquire the quarry by woodcraft and wits rather than mean deception.

Young moose are born towards the end of May or beginning of June, according to latitude. The first contribution is generally one. Thereafter, two are usually born. Triplets, however, may sometimes appear. Long-legged youngsters, they are as unsteady on their feet as young foals. It is not difficult to find them hidden in some thicket where they have been left by their mother while she forages afield. As you approach them they never think of flight, but rather crouch closer to the ground hoping, no doubt, that they will not be discovered. You may fondle them until they have grown sufficiently to become pugnacious. If, however, you are inclined to disregard reasonable discretion, it is well to remember the old woodland adage, "Don't molest a bear cub unless you are prepared to go the limit with its mother." This, too, applies to baby moose, except in their case a nearby tree affords a safe retreat—if you are agile.

The first spike-like horns of young moose visibly appear in the early spring of the year following their birth, and are fully developed when the frosts of autumn appear. These are shed late the following spring and replaced by another growth of larger proportions. Each year the horns are shed earlier, and with each successive growth the characteristic spade-like palmation increases until about the eighth year of life. The average spread of horns in prime males—the females are without the adornment—is from 52 to 58 inches.

Akin to most forest-dwelling animals, moose are endowed with poor eyesight and depend almost entirely upon a highly developed sense of smell and hearing as a means of detecting the presence of enemies. It is quite evident, too, that they are color blind. With what strength of vision the moose possesses it can only recognize danger in life, and life only in motion. However colorfully the observer may be attired, provided he does not move, he will not excite attention if the wind is favorable. This information is of value to the photographer and sportsman, the photographer especially, for the moose is the most photographed denizen of the Canadian wilderness.

Again becoming personal, we learn that moose are clothed with coarse brittle hair containing various shades of brown, black and grey. The outer ends are dark, while the hair next to the skin is nearly white. In adolescence, the legs and belly are greyish-white, a coloring which, to some extent, is lost with progressive age. The calves at birth are covered with woolly hair of reddish hue. They are not spotted like the babies of our other deer. The purpose of the appendage known as the "bell" is not understood, but several mythical explanations are offered. It attains its greatest length in young mature males, shrinking with age to the size and appearance of a dewlap. Both sexes are adorned with this characteristic ornament. As to a tail, many have asserted upon first sight that the moose was neglected in this respect, no doubt on account of its apparent aversion to making the fact known. A tail is present, but it seldom attains a length of more than 4* inches.

Speaking of weight, much has been said of the enormous bulk of the adult moose in his prime. By comparison, a large moose is infinitely taller than a tall horse. With

long legs and short body, the moose, however, gains in height without gaining weight in proportion, a fact that is frequently overlooked when judging and comparing bulk. The average weight of a mature male moose is from 900 to 1,400 lbs. Adult females are smaller and will tip the scales between 670 and 1,050 lbs. The shoulder height of mature males is from 5 feet 3 inches to 6 feet 6 inches, and of mature females from 5 to 6 feet.

The homeliness of a moose's face is not improved by the shape of its upper lip which, in a way, simulates a universal coupling. The conformation of the upper lip, though, is nature's provision in order that the moose may browse rather than graze. Consequently, it is with great difficulty that food can be gathered close to the ground, and then only with wide spreading fore legs in the manner of a giraffe.

With regard to food, the normal diet of the moose includes twigs, leaves and bark of poplar, birch and other shrubs and trees. Moss and lichens are not overlooked, neither are the roots and stems of aquatic plants, which are secured in deep water by totally submerging the head and often the entire body. The colorful fireweed of the burns is especially favored. In winter the twigs, cones and needles of coniferous trees are eaten in quantity. It is often a source of wonder to what degree of mastication the larger twigs can be reduced, twigs big enough to make a cheery camp fire. One look at a moose's battery of 12 molar and 12 premolar teeth, dispels all doubt. The fore part of the upper jaw is devoid of teeth. There are eight incisors in the lower jaw, completing a set of 32. Like all ruminants, moose chew the cud.

As to the marital affairs of the moose, it is generally conceded that in regions where the sexes are equal, monogamy prevails, and where the females predominate, polygamy is the general rule.

Apart from the moose, four other species of deer are common to Manitoba — the elk, the white-tailed deer, the mule deer and the caribou. These several forms are scientifically assigned to the order Artiodactyla, (even-toed mammals) and belong to the same family, Cervidae, the deer. The moose is known to science as Alces americana.

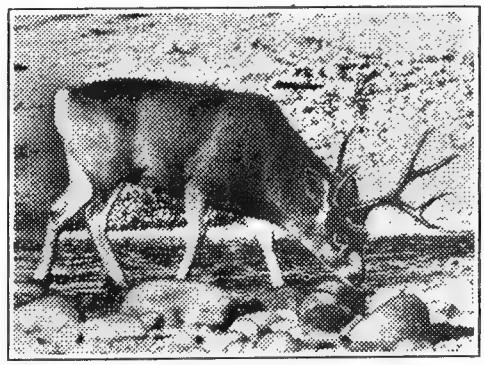
In many sections where it was until recently quite abundant, the fate of the moose hangs perilously in the balance. We are led to believe that because it is fairly plentiful in certain isolated game "pockets" in Manitoba the various populations are representative of the province in areas where moose once lived, but are now conspicuous by their virtual absence. Will the moose of Manitoba, we wonder, share the fate of other recent mammals and birds that have passed beyond our ken and left us sorrowfully contemplating an irretrievable loss?

To the naturalist with time to spare, the Riding Mountain National park beckons appealingly, for many moose dwell in security within the shelter of a friendly forest, close beside the many trails. They are tame, too, a tameness born of confidence in humans who "shoot" with cameras and do not kill.

White-tailed and Mule Deer

THE confusion that invariably exists when purely local names are applied to well distributed mammalian species is increasingly evident when two forms bear the same appellation. This occurs in Manitoba, for our two smallest deer, the White-tailed and the Mule, are more than often collectively termed "jumping deer", irrespective of the fact that all deer jump when and where occasion demands. The confusion is unfortunate, especially as the difference between the species should be obvious to even the casual observer.

The White-tail is undoubtedly the best known to the sportsman of our native deer. It is found in varying numbers in nearly every section of light bush country, and frequently lives near the borders of cities and towns, oblivious to the nearness of civilization. It is said that it is the only game mammal that holds its own despite the heavy toll exacted annually by the hunter. Its preference for clearings has done much to extend its range, for as the axe and saw reduced our forests to scrub land, the White-tailed took possession and prospered.



Mule Deer

Economically, the White-tailed deer played a heroic part during the days of pioneer settlement of the plains, supplying as it did both food and clothing for the intrepid vanguards of the knights of the plow and sickle. It also taught the early

pioneers the art of woodcraft, and many hunters learned to handle firearms with success at the expense of this elusive creature.

Sufficient differences exist between the White-tailed and mule deer to make identification simple. The importance to the sportsman of what he kills cannot be too strongly stressed. The budding naturalist, too, will profit from his closer observation of two creatures that look alike yet differ materially.

The White-tail may be described as a gracefully formed deer of medium size, the male alone carrying antlers. The tail is quite long and bushy and conspicuously covered with white hair on the underside, the upperpart is dusky. Antlers are of good size, branching forward rather than upward with single undivided tines arising from the beam. Both sexes are colored alike, but seasonal variation is noticeable especially in the tail when shedding takes place. In summer, the upper part of the pelage is reddish-brown; underparts a whitish-cream. During the winter months the color becomes grey. The inside of the ears, which are normal in size, is covered with white hairs; a dark band traverses the nose, which is marked with a blackish spot on each side. An orbital ring encircles the eyes. A scent gland, about one inch in extent, is evident on both hind legs below the hock, appearing externally as a sparsely-haired rough surface like an old scar.

The young, usually twins, born from early June to late July, are of the same coloration as their parents, except that a liberal covering of whitish spots is present until the fourth or fifth month after birth. They are known as fawns.

Adult males will scale from 150 to 300 lbs., and measure from 36 to 40 inches at the shoulder. They are known in game parlance as bucks. The females, called does, are somewhat smaller than the males. The antlers of prime males carry five or six points, but many freak forms are evident. They are grown and shed annually in the manner of other deer.

Broadly speaking, the field characteristics of the White-tailed deer are the form of antlers, ears, tail and scent gland, and the manner of their flight when alarmed. This is a wild dash in a definite direction, taken without hesitation with tail erect, waving from side to side.

The Mule deer, sometimes called the Black-tail, which, however, is not quite correct, as the Black-tail proper belongs to the Pacific coastal regions and has a different tail, is more robust than its white-tailed cousin. The ears, with their cavities noticeably white, are very large and mule-like in appearance—a feature from which the name is derived. The tail is slender, covered with short white hair on the upper side and naked beneath. The tip is black. Horn growth, present only on the males or bucks, branches upward rather than forward, with bifurcated beam and forked tines. The scent gland, present on both hind legs below the hock, is about three inches in length. In color the summer pelage of the mule deer is buffy-brown, relieved by a white rump patch extending to the tail. The underparts are darker and the throat and inside of the legs greyish-white. There is a blackish spot on the forehead. With the arrival of winter the upperparts become dark grey.

The young or fawns, like the White-tail, come into the world liberally covered with white spots, which also persist until the fourth or fifth month of life. They make their appearance in June, and their number varies from two to three. Twins, though, are usually born.

In the matter of weight, adult males will tip the scales between 150 and 200 lbs. with unusual weights up to 400 lbs. A specimen collected by the writer in 1934 for the National Museum, Ottawa, weighed 335 lbs. The shoulder height of mature males average about 42 inches. The females are noticeably smaller. The antlers of prime males seldom carry more than four points.

Mule deer are adverse to inhabiting dense forest growth, preferring hilly open places bordered with sheltering trees or heavy brush. They may sometimes be found on the same range as the White-tail, frequenting the rougher localities. The Manitoba population of the mule deer is very small, and unless steps are taken to separate the mule deer from the White-tail in the matter of hunting privileges it is quite possible that it may become relatively scarce.

A marked difference exists between the mad straight rush of the White-tail when alarmed and the get-a-way of the mule deer. The latter, when frightened, zig-zag erratically, taking off and landing on all four feet. When in flight, too, the tail is not held waving and erect, but hangs loose to the buttocks.

The major distinctions between the White-tailed and mule deer may be summarized as follows:

White-tailed Deer

Head—Band across nose. Eye rings.
Ears—Medium.
Color—Reddish-brown. No rump patch.
Tail—Long and bushy. Dusky above, haired with white beneath.
Scent Gland—About one inch long.

Mule Deer

Head—Blackish patch on forehead.
Ears—Long.
Color—Buffy brown. White rump patch.
Tail—Slender and of medium length, tipped with black, naked beneath.
Scent Gland—About three inches long.

In respect to food habits, White-tailed and mule deer browse and graze. Their diet consists of a wide variety of grasses and weeds, together with the tender twigs and leaves of many shrubs and trees. Acorns are especially favored, and their liking for salt lures many to their death when the sportsman is abroad in the woods.

The White-tail has apparently no vocal means of expression. Curiosity or apprehension is made known by a guttural snort, or forcing air through the nostrils with the apertures partially closed accompanied, when standing, by stamping feet. The mule deer, though, bleats occasionally. The young of both forms bleat.

Two sub-species or varieties of White-tailed deer are common to Manitoba, and possibly three. They are the Eastern White-tail or Virginia deer, Odocoileus virginianus virginianus (Boddaert); the Northern White-tail, Odocoileus virginianus boreali. (Miller), and the Western Whie-tail, Odocoileus virginianus macrourus (Rafinesque). The presence of the latter has not been definitely determined with scientific precision. The several sub-species vary slightly in size and color. The White-tail is often known locally as the cottontail and fantail.

The Mule deer is represented in the province by two sub-species, the Western Mule deer, Odocoileus hemionus hemionus (Rafinesqque), and the Minnesota Mule deer or Brush deer, Odocoileus reminus virgultus (Hallock).

Nature lovers will find the White-tailed and Mule deer plentiful in the Riding Mountain National park, especially in the vicinity of Clear Lake. Both varieties are tame and approachable, and afford a wealth of natural history lore unattainable from the printed page.

The Elk

MANY years ago, before the advancing tide of civilization began to sweep the prairie of the west, elk were numerous about the wooded areas of the Manitoba hills. Early explorers mention their occurrence in large numbers along the banks of the Red river, south of Winnipeg. LaVerandrye, during his exploration of north-central Manitoba, probably came in contact with vast herds of elk. Hind and Tyrell, of a later era, speak of the elk near the north escarpment of the Riding Mountain and its vicinity. Indians, too, those of a generation passing quietly towards the valley beneath the setting sun, from which there is no return, remember when the elk of the Riding Mountain region were "thick like buffalo." The elk was favored by our first Canadians in the early days; tender meat it gave for the pot, soft hides for tanning and "tusks" to decorate fine raiment with savage splendor.

The flood of settlement sounded the death knell of virgin plenty. The valley of the Red river, the Turtle mountain, the Pembina mountain and the Brandon hills still speak eloquently of the past, for bleached and decayed antlers and mouldering bones hidden in unfrequented places, mutely tell that

Elk

countless elk once lived and prospered thereabouts before the white man came to scar the land with furrows and plant his fields of grain.

At the moment few elk remain of the once vast herds that roamed the southern portions of the Dominion from Nova Scotia to the Rocky Mountains and beyond. Today their distribution in Manitoba is mainly confined to the Riding Mountain National Park where the largest wild herd in Canada abides. The Duck and Porcupine mountains support a few, and some are said to exist in a region between Lakes Winnipeg and Manitoba. To the west, only a few scattered bands occur, except in the Rocky Mountain National Park where several hundred receive protection for the aesthetic worth. Manitoba is indeed proud of the Riding Mountain herd, preserved in an age of destruction by the federal and provincial authorities in order that coming generations of Canadians may view their heritage in a natural environment, rather than behind the restraining bars of animal enclosures.

The elk is the second largest of the North American deer, and closely related to the red deer of Europe. It also occurs in Asia, from whence the species probably migrated in the dim distant past across the land bridge that once existed between Asia and America, now covered by the Behring Sea.

The appellation "elk," it may be said, is a misnomer, for the reason that "elk" is the correct scientific name for moose, while the name "wapiti" correctly designates what we, in error, call the elk. The mistake arose in the early days of eastern settlement when, for want of a known name, the moose was christened with the Algonquin Indian term, "muus," meaning literally, "Eater of Wood." The word wapiti, according to authority, is derived from the Indian, "wa-pa-tik." The misapplication of the names, however, is of no moment as there is little likelihood that they will ever be reversed.

The size and gracefulness of the elk is its bid for fame, attributes that few will deny after viewing a herd or family group in full flight, for daintiness in action is seldom seen in the wild in connection with bulk. As a sporting animal the elk has much to be desired. There are no anxious moments incidental to the chase, and when once located their slaughter holds no more glories than the killing of a domestic cow.

Unlike other deer, elk have several calls voiced throughout the year, consequently where elk abide they foolishly make known their presence. In general, the calls may be classified as expressing curiosity or apprehension, depending upon the circumstances responsible for their utterance. One resembles a hoarse throaty "bark" uttered by both sexes, the difference being readily distinguished by an experienced ear. It may be expressed phonetically as "eeeeeeeeeee-eough." Another call simulates the first painful notes of a mulish bray. The best known call, however, is voiced by the male just prior to and during the mating season, and by the female at the season when the calves are born. It is seldom heard at any other time. This is the call known as "bugling," and once heard is never forgotten. Reduced to words it is a high pitched "ai-eeeeeeeeeee-eough," commencing on a clear low note and rising rapidly in pitch and intensity to a shrill whistle, followed by a grunting rattle as if caused by an intake of breath. The voice of the calves is a piercing "eeeeeeeeeeee," supplemented when occasion demands by petulant grunts and murmurs of satisfaction. Female elk, known as cows, have also a varied vocabulary when attended by young, sounds that probably express terms of endearment and pacification, something held in common by all living things.

In Manitoba, elk calves are born from the middle of May to the middle of June. Generally, one is produced, but, on occasions, twins appear. They remain with their mother until the following spring. One may find many of these pretty youngsters on the Riding Mountain range when the verdure of the forest is becoming green. Like young moose, they are not adverse to human caresses and pose readily for the camera. Difficulty is often encountered in ridding one's self of their presence, for they are prone to follow, forgetful for the moment that humans are an alien race. Unlike mother moose, the cow elk does not resent interference with her offspring. She is timid and not endowed with the characteristics of aggression.

The antlers of the elk are vastly different from the horns of the moose. There is no spade-like palmation, and in its place beams and tines appear. The number of their development, however, is identical, a gradual annual increase in size until the limit of weight and proportions it attained at the age of about eight years. Only the males are adorned. The average weight of the antlers of the Manitoba elk is about 24 lbs per pair; the average length 52 inches, and the average spread 48 inches. The average number of tines on each beam is five, not including nubbins or diminutive points; six tines are common and even eight may occur. The figures apply to adults.

With regard to weight, mature males will tip the scales between 700 and 1,000 lbs. and stand as high as five feet at the shoulder. The weight of females is from 500 to 600 lbs. Their shoulder height is about four feet eight inches.

Male elk, known as bulls, are slightly lighter in color than the females. The summer pelage of the males is a rich chestnut brown, with head and neck of deeper shade. The underparts are somewhat darker with a whitish coloration between the hind legs extending along the abdominal region. A straw-colored rump patch of large area is a characteristic of the species. The winter coat is somewhat lighter and more dense. The calves at birth are a medium chestnut-brown with many irregular white spots that persist for several months. Like the moose, the elk's tail is short and inconspicuous. Mere words, though, cannot suitably describe the beautiful appearance of this stately animal which has earned for itself the appropriate title, "Monarch of the Hills."

In nature the protective senses of a wild creature are regulated according to necessity. Moose, because they are denizens of the deep forest, have no need of keen eyesight. Scent and hearing suffice to warn them of the approach of enemies. Elk, on the other hand, not only frequent the forest, but spend much of their time in semi-open country and, in consequence, are endowed with excellent eyesight, scent and hearing. Neither are they color blind.

In the matter of food, elk are both grazing and browsing creatures and consume a variety of ground herbage as well as the leaves and twigs of various trees and shrubs. In winter feed is secured by removing the covering of snow with pawing front feet. At this season of the year they congregate, when

their numbers permit, forming large herds that often number 500 or more individuals. Such herds may be seen in the Riding Mountain National park when winter comes.

As regards dentition, elk possess 34 teeth, an excess of two above any species of North American deer, except the caribou. The addition is the canines, one in each upper jaw. They are of little use to the animal itself, but ardently prized as watch charms and relics of the chase. Much destruction was brought about in former years in order to secure these coveted relics. Hundreds of elks were slaughtered annually for no purpose other than to secure and market the canine teeth. know as "tusks." Happily the days are past when elk are killed for such a trivial purpose. The action of a well known fraternal society, who banned the use of elk teeth as an emblem, did much to strangle an illicit trade both in Canada and the United States.

The marital habits of male elk would receive no approbation were they judged by human social standards, for their one ambition during the short mating season in the fall of the year is to acquire a harem of as many females as possible. Their ability in this respect is governed by the degree of courage, guilt, and strength they possess to fight for what they have and dispossess others less powerful than themselves of a rightful share of feminine spoils. Sometimes a virile male will acquire as many as 14 wives. Some, though, must be content with one.

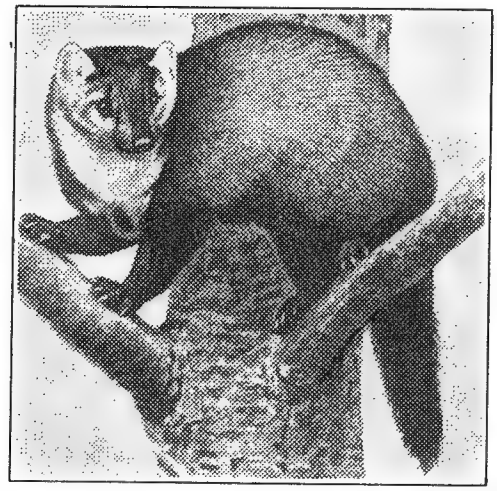
The scientific name of the elk inhabiting Manitoba is Cervus canadensis manitobensis Millais. This elk is somewhat darker in color than the type form found in the Rocky Mountain regions of the United States, and is said to have smaller antlers.

Marten, Mink and Weasel

THE Fisher is often described as a large marten, and so, conversely, the marten may be called a small fisher for the purpose of descriptive comparison. Among other points of similarity the marten is an arboreal dweller and an accomplished climber of trees and partakes of much the same food as its larger cousin, which it captures with equal agility.

Many years ago, before fur was a thing to conjure with, the marten was a common denizen of the heavily timbered areas of Manitoba as far south as the Riding Mountain, but as even a suggestion of settlement is sufficient to cause a migration, it is extinct today in the regions where it could well exist but for a dislike for the nearness of human activity. In any event it is not abundant elsewhere in the province. The fact that the marten is not suspicious of traps and carries a pelt of no mean worth has done much to reduce a normal population to almost a remnant.

The marten may be described as a weasel-like creature a little smaller than the average house cat, dressed in a coat of soft, rich, dark or yellowish-brown fur shading into black at the tail. In the forest it may often be mis-



—Courtesy Hudson's Bay Co.
Marten

taken for a large squirrel until one notices a buffy patch of color on the throat and chest. The marten measures from 20 to 25 inches in length including a tail from seven to eight inches long.

Little is known of the life history of the marten, not so much because it is difficult to obtain through the medium of trained naturalists, but rather on account of lack of interest and the prevalent belief that captured animals in close confinement are ideal subjects through which to study economic essentials peculiar to the widerness. It may be said in contradiction that the habits of animals in confinement in nowise simulate the behavior of their more fortunate brethren living in a state of nature, a fact unappreciated locally to the detriment of wild life management within the province.

The marten of North America is also known as the Pine marten, American marten, American sable and Hudson Bay sable. The true sable, a related form, hails from Eurasia. The marten of Manitoba, the Hudson Bay marten, is known to science as Martes americana abietcola (Preble). It is a member of the family, Mustelidae, and possesses 38 teeth.

We now pass on to the last of the weasel family in Manitoba, the mink and weasel.

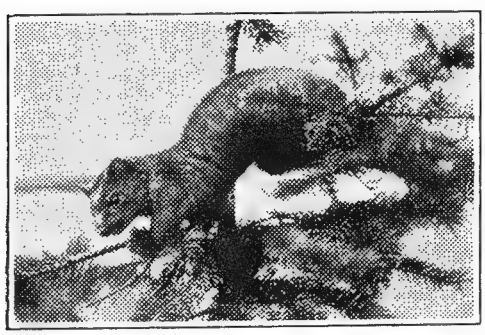
Mink are fairly well distributed throughout the province wherever streams with bordering shelter exist. They are almost as aquatic

as the otter and fishermen of skill. They are wicked hunters, too, of all small things, such as rabbits, mice and birds, and not adverse to appropriating the humble abode of the muskrat after slaughtering and devouring an occupant or two to ensure undisputed tenancy.

Mink have two undesirable qualities both from a human standpoint and that of their fellow creatures. A malodorous scent, released with vigor when excited, has caused more than one person to class the mink with the skunk as a dispenser of "perfume." There is a difference, though, because the skunk's odor is undoubtedly supreme. And, among the animal people, the mink's habit of killing for the sheer love of slaughter would meet with no approbation were they capable of causing complaint, for it is a decree of nature, broken in this instance, that life of the wilderness is only destroyed to satisfy the pressing need of food rather than the satisfaction it affords.

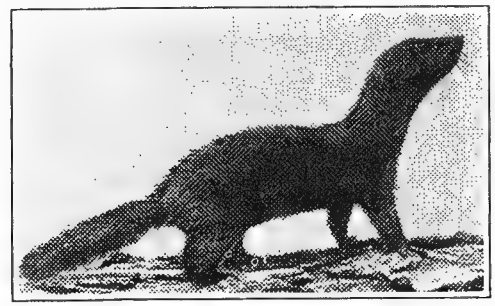
In color, the mink is a dark, rich, umber-brown, glossy in appearance and slightly darker along the back and tail. Adult males will weigh about two pounds and measure 24 inches in length. Females are noticeably smaller. The mink common to Manitoba is the Hudson Bay mink, Mustela vison lacustris (Preble). Mink are characterized by possessing 34 teeth. They belong to the family, Mustelidae.

Thirty-six varieties of weasels are common to North America of which Manitoba supports three—the Bonaparte weasel, the Least weasel and the Long-tailed weasel. They are known to science as Mustela cicognani cicognani Bonaparte, Mustela rixosa rixosa (Bangs) and Mustela longicauda longicauda



Mink

Bonaparte, respectively. The Bonaparte weasel is colored a uniform chocolate-brown with whitish underparts and terminal third of tail black; the Least weasel, the smallest of the weasels, is dark reddish-brown with white underparts and short tail having no black tip, and the Long-tailed weasel, the largest of the trio, is clothed with a pelage of pale yellowish brown with buffy underparts, possessing the longest tail with a relatively short black tip. All three forms are white in winter when they are called "ermine" which, in reality they are not because the ermine proper, a related form, comes from Eurasia. The black tipped tail is retained in winter by the Bonaparte and Long-tailed weasels. In warmer southern



Long-Tailed Weasel

climes, however, weasels are colored much the same throughout the year. It is only in northern latitudes that the winter coat is white.

The habits of the weasels common to Manitoba are identical and equally bloodthirsty, for their one ambition in life, like their brethren elsewhere, is to kill. Perhaps, though, they require more victims to satisfy the pangs of an insatiable hunger because warm blood rather than flesh is their normal food, and after all there is little blood in the veins of a mouse and other small mammals and birds which provide a generous larder. There are occasions, however, when even this excuse is untenable, for the writer has frequently observed heaps of mice containing from five to fifteen carcasses killed, so the evidence showed, by weasels and left to decay without thought of undrained blood. The weasel's penchant for poultry is better known, especially when it raids a hen roost and kills the feathered occupants to the last one. Rats suffer likewise, a fact that may even up the charges for and against its right to exist about where humans dwell.

Weasels are curious and bold and few there are about the country districts who have not seen their lithe forms moving swiftly to cover as one approaches, only to reappear alert and with twinkling eyes to survey casually, without thought of consequence, the human visitor to its domain. But in a trap its seeming docility takes flight and no greater example of baffled rage and fury can be found in one so small.

Young weasels are born in the spring and early summer, usually within some deserted burrow previously occupied by another small mammal. They number from four to ten

The weasel, like the mink, is a member of the Mustelidae family. It is also endowed with 34 teeth.

Facts and Fallacies About Deer

IT has always been a matter of speculation of the puzzling kind why deer grow a huge amount of bone in the form of antlers, only to cast it away at a season when it would seem to serve the purpose of a defensive weapon. There is, however, no answer to the question, unless we believe that sharp front feet are more effective to ward off attacking enemies when the snows of winter are deep. That striking front feet are weapons of no mean ability to inflict injury and even mortal wounds, all will aver who have observed fighting deer in action. With this in view antlers serve only one purpose—to attain pre-eminence at mating time, thus permitting the young and virile to perpetuate their kind at the expense of the aged and decrepit. Which, of course, is as it should be if species are to survive.

The phenomena of antler growth begins shortly after birth when soft buttonlike knobs may be felt beneath the skin of the frontal bone. In due course, fleshy pads appear above the surface through which blood flows, depositing bony matter within. This fleshy mass continues to develop as the antlers take form and substance through the medium of blood coursing along the exterior hairy covering known as "velvet." When the growth has reached its full developments and is still soft and tender, a ring of tubercles surrounds the abe of each antler. On first appearance the tubercles are soft, but they harden rapidly, forming what is known as the "bur," and by so doing construct the blood vessels flowing through the "velvet", which soon dries up and is rubbed off, leaving the antlers bone-like and insenstive. The antlers are then tightly affixed to the frontal bone of the skull and are actually a part of it. When the time for shedding approaches a cup-like fracture gradually surrounds the base, severing them from the frontal bone. Within a few weeks after shedding, the nucleus of another pair appears in the resulting depression, the substance of which remains dormant until the last days of winter.

We learn from the above that deer antlers are not composed of horn, consequently the latter term is incorrect although popularly used on more than one occasion in the preceding descriptions of deer. Horn is not bone, but an entirely different substance which, when worn as a head ornament or weapon of defence, surrounds a sponge core. Horns, too, are permanent, and when once lost through accident or design do not grow again. This, however, is a broad statement, or at least one exception exists, the horns of the prong-horned antelope, the horny covering of which is cast annually. The core, though, remains as a foundation for a new growth.

It has been previously intimated that, with the exception of the caribou, female deer are without antlers. Nature's decrees, however, like man-made laws are created to be broken. And so we find an occasional female beyond the age of reproduction, or incapable of bearing young, developing diminutive and ill-shaped antlers, if one can comparatively apply the term.

That young deer are without body scent until several weeks old is evidently a fact and nature's means of affording a measure of protection during infancy against marauding enemies. A dog will pass a crouching youngster from any direction without its nose detecting the near presence of game. Wolves and bears, creatures endowed with extremely keen olfactory senses, also pass them by, unless sharp eyes see through the camouflage of spots and color, blending perfectly with the surroundings. Nature is indeed a beneficent mother where her children are concerned.

Fanciful beliefs die hard, even when they owe their origin to the wilderness, for in any forest where humans live there will one gather a wealth of information about wilderness affairs as interesting as it is untrue. Why erroneous lore should exist in the minds of individuals with every opportunity to become acquainted with the facts of nature is difficult to explain, until we realize that the many misconceptions are figments of the past, handed down from generation to generation and accepted without thought or question.

Never handle a moose calf or the young of other deer you may find in the bush or forest, is an admonition heard wherever deer abide. The human odor one leaves behind, it is thought, will so perturb the female parent that she will abandon her offspring to die rather than continue her maternal care. Quite untrue. It requires more than a fleeting whiff of man-scent to counteract the instinct of mother love.

We are told, too, that the age of male deer can be determined by the number of antler points protruding from one beam, one point for each year of life. This, of course, is fallacious, except when a deer is young. For instance, a four-year-old bull moose may carry blades with eight or nine points, a seven-year-old bull elk, five points, and a white-tail buck, two years of age, four points, to say nothing of the confusion that would exist when one antler carried a greater number of its points than its mate. In this respect equally divided points are the exception rather than the rule. Again, very old in-

dividuals whose vigor has departed will grow small antlers with few points, although they may be ten years of age or more. With this in view no doubt can remain in the mind of the sportsman or nature lover that the number of antler points carried on one side can never, in respect to adult deer, be indicative of age. Neither for that matter is size or weight an indication, for antler growth depends upon a plentiful and varied food supply during the winter preceding their appearance. Should winter be severe and food scarce, the antlers of the following summer will be below normal.

It is also said that male deer use their antlers during the winter months to lay bare ground feed hidden beneath the snow. This, too, is incorrect, mainly because only juveniles carry antlers throughout the boreal season. and if they use them for this purpose no field naturalist has recorded the fact. The antlers of mature males are often cast before the snow appears, and it is a rule, seldom broken, that the older the animal the earlier they are shed following the conclusion of the mating season.

Wilderness misconceptions are legion. In the analysis some seem ludicrous to an extreme; others, like the legendary lore of our first Canadians, are enveloped in the glamor of romance. But truth is ever stronger than fiction, the lore of the nature faker nothwithstanding.

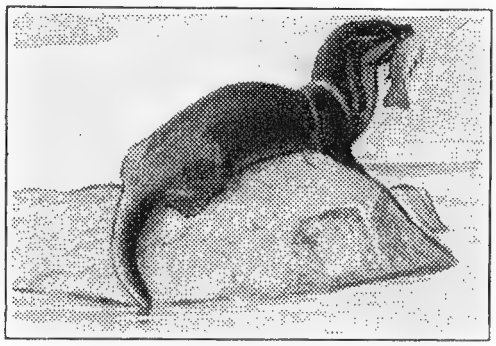
Otter and Fisher

SPECIALIZATION in nature to adapt animal forms to the manner of their existence is well exemplified in the structure of the Otter, a creature with webs on all four feet, yet as much at home on land as it is in water. A traveler, too, not only along rivers and streams, but across many miles of arid country when searching for diversity and pastures new. A few days here, where fishing is good and then, gypsy-like, a migration to another favored spot, is the otter's vagabond routine throughout the year.

It is an ever-remembered thrill, as well the writer knows, to observe a traveling otter family in some deep river pool at the moment when a sleek-seal-like head appears above the water to ascertain the origin of alien footsteps, only to disappear with oily smoothness, leaving scarcely a ripple behind. The thrill is increased when the family break surface a second time ahead of a string of bubbles marking their underwater course, and, when satisfied that all is well, pursue their domestic affairs as if no human were about. But that is how one learns of wild things who quickly realize that men, like deer, may mean no harm.

Yes, a thrill indeed if one can find a locality where they exist, for the otter is yet another worthwhile creature with a glorious past and a hopeless future, an animal with a pelt of sufficient value to guarantee its local extinction within a decade unless given the total protection it so surely deserves.

In spite of a liking for dry land, the otter requires water, and when winter comes



—Courtesy Hudson's Bay Co.

Canada Otter

it is often hard pressed for food unless places can be found clear of ice about rapids and waterfalls. On many parts of its range, when open water is absent during the coldest months, deep beaver ponds are invaded and provide a generous habitat teeming with little fish and dormant frogs. But how to penetrate beneath the thick ice of a beaver pond would seem a problem beyond the thought of any creature other than man. The otter nevertheless encounters no difficulty. It merely digs a horizontal hold a foot or so below the crest of the retaining dam, allowing sufficient water to drain away so that an air space will exist under the frozen surface of the pond.

The otter's ingenuity is again exemplified when recreation is sought. Playfulness, other than rough and tumble conflict, is a well-known trait, and the otter slide a convincing sign wherever otters abide. Otter slides are used to toboggan on snow or slithery mud from the brink of a sloping creek or river bank to the water below. The trick is performed lying on the breast and belly with forelegs bent back out of the way and hinds legs stretched to the rear. An otter family may engage in this sport for almost an hour, sliding into the water and journeying to the top in order to repeat the performance. All of which is rather difficult to believe, but again truth in nature is always stranger than fiction.

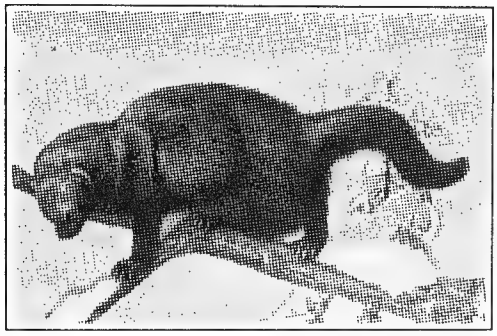
The range of what few otter remain in Manitoba is confined to the northern watered areas beyond the borders of civilization. A family or two exist within the sanctuary of the Riding Mountain National park. They

are considered to be the only remnant of their kind in Manitoba close to the crowded haunts of man.

As previously suggested, the otter has a preference for fish and can swim so swiftly in water that it readily overtakes and captures even the most elusive species. It is not adverse, though, to consuming anything palatable in the way of flesh, such as small mammals and birds, including, it is said, baby beaver.

The otter may be described as a long lithe creature of weasel-like form weighing from 18 to 25 lbs., clothed with dense glossy brown fur from which many glistening guard hairs protrude. Its tail is long and tapering, measuring from 12 to 15 inches in length. Baby otters are born during the last weeks of April in a secluded den. They number from one to three in a litter.

The otter of Manitoba is Lutra canadensis canadensis (Shreber). It has 36 teeth.



—Courtesy Hudson's Bay Co.

Fisher

The Fisher is another large member of the weasel family, a land dweller with an appetite for fish, yet not a fisherman of note like its cousin, the otter. As a hunter it is without parallel among our native animal people, catching its prey among the branches of the highest trees with the same ease as those that dwell upon the ground. It has another distinction worthy of note, for the fisher is the only Canadian flesh-eater with a knowledge of how to reach the vulnerable part of the prickly porcupine. This it accomplishes by carefully overturning the sluggish quill protected creature, laying bare the unprotected underside.

Little is known of the fisher, not so much on account of its nocturnal habits, but rather because it has never been abundant even in years of plenty. In consequence, as fisher fur is of more than unusual value, the species has been unduly decimated to supply the markets of the world. Just where the fisher exists in Manitoba today is difficult to say. Until a few years ago the Riding, Duck and Porcupine mountains supported a few, but there is now every indication that the trapper has gathered them in.

The Fisher is a large, powerful marten, much like an overgrown housecat. Its general color varies from greyish-brown to warm brown with darker fur along the back. Males will measure about 36 inches in length, including a 15-inch tail, and weigh on an average from 8 to 12 lbs.

Small mammals, including the squirrel, birds, frogs and fruit constitute the bulk of the fisher's diet. From one to five young are born in early May.

The Fisher of Manitoba is Martes pennanti pennanti (Erxleben). It is also known as the Pekan, the Pennant marten, Black Fox and Blackcat. The fisher is characterized by the possession of 38 teeth.

Porcupine and Muskrat

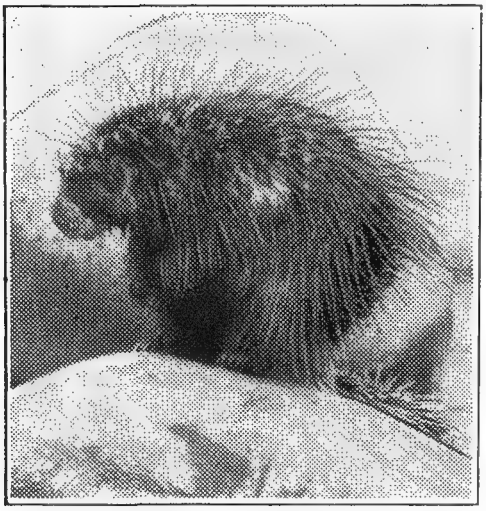
IN the natural world, protection against enemies depends upon the ability of a species to escape or evade pursuit according to its structure, aggressiveness or mode of life. The deer rely upon fleetness of foot; the flesheaters, a combination of ferocity and agility; the water-loving creatures seek the sub-surface of ponds and streams; the burrowing animals ,the depths of dens, and the climbing creatures, the sanctuary of the tree tops. They are not always successful, for life must live at the expense of death—the fittest survive. Some species, however have special endowments. Thus, we find the skunk uses its scent glands to ward off attack, and the porcupine its quills for a like purpose. Neither are able to engage in combat with tooth and claw or escape with much success. Were it not for the porcupine's quills, it is safe to say that porcupines would have long departed from the present scene.

During recent years the Porcupine has become a well-known native mammal through unpremeditated visits to local cities and towns far from its usual haunts by way of railway box cars loaded with fuel wood. But departure from their forest home usually ends in tragedy prompted by sympathy for an inquisitive dog with a face full of torturing quills or some person's exaggerated fear of a harmless creature.

Yes, porcupines are harmless and even make interesting pets. They are not pugnacious, neither do they "shoot" their quills. They merely ask, as all wild creatures do, to be left alone to pursue their own devices. An admirable trait indeed.

The yellowish-white quills of the porcupine are generously distributed over the upper parts of its body from the crown of the head to the tip of the tail. They are stiff, sharp and barbed at the business end and lightly fastened to the skin. When closely approached the porcupine seeks to

gain the branches of the nearest tree, but if crowded takes up a defence attitude with head down and quills erect. Nearness or contact with its body causes a vigorous slap of the tail, and thus the quills are



Canada Porcupine

withdrawn and transferred to the flesh of any creature foolish enough to meddle with the porcupine's fretful person. The mere presence of numerous quills imbedded in living tissue would seem sufficient to serve the porcupine's purpose, because withdrawal is impossible without the aid of instruments. However, their presence is intensified on account of the barbed point which works deep into flesh and often pierces a vital organ. No wonder the denizens of the wild, except the Fisher, and possibly other creatures, give the porcupine a wide berth. The belief that the porcupine "shoots" its quills is undoubtedly suggested because loose quills have been seen to leave the body when the tail is flipped—quills detached from the skin.

Essentially a tree dweller, with ability to climb, the porcupine occurs in the forested areas of Manitoba east of Winnipeg and northeast towards Hudson Bay. In the western portion of the province it is seemingly unknown. It is strictly vegetarian and subsists upon the bark, buds and leaves of many trees and shrubs. An extreme fondness for salt is apt to cause inconvenience when one is camped in the woods where porcupines abound, for axe handles, canoe paddles or anything seasoned with the salt of human sweat, is eagerly devoured.

Porcupine flesh, although said to be toothsome, is not recommended, unless starvation threatens. It was a custom at one time to protect the animal, because it is the only creature that a person lost in the woods without food can kill with a stick. A case of needs must when the devil drives.

If description is necessary, the Porcupine may be described as a large, sluggish rodent of slow, clumsy gait, weighing from 15 to 40 pounds. The Manitoba variety, the Canada Porcupine (Erethizon dorsatum dorsatum (Linnaeus), is clothed with slaty-black or brownish-black woolly hair, from which larger light-tipped hairs protrude. When unexcited the quills repose within the pelage.

The porcupine does not hibernate and is active throughout the year. The number of young is usually from one to four, born in a concealed nest on the ground. The family name of the species is Erethizontidae, characterized by possessing 20 teeth. The scientific name can be interpreted as meaning, "the One with the Irritating Spears." Other common names are Quill-pig and hedgehog. The latter is incorrect, for the true hedgehog is an insect eater.

The Muskrat may well be called the savior of Manitoba's wild fur trade, for on account of its prolific breeding ability it has for several years supplied the majority of marketed pelts. Quite a distinction for the muskrat, but not an envious record for the province, when considernig the proportional scarcity of other furbearers. It is popular, too, this humble denizen of marshlands, an animal rocketed to fame as "Hudson Seal", the pride of feminine hearts to the despair of the pocket book. Two decades ago a muskrat pelt was worth but a few cents. Today, like many other things, it demands the price of vanity.

The muskrat is widely distributed over Manitoba and readily resides wherever extensive bodies of shallow water occur. It is thus well known in the flesh to most dwellers and to the sportsman who invades

Muskrat

and there about the waters of his home, living and feeding to his heart's content. Something, too, that suggests the carefree the wild duck country in the fall of the year. There is something reassuring about this glossy-coated chap as he swims here

habits of the unrelated beaver. The little lodges the muskrat builds and the manner of gathering food plants and other similar traits they possess in common, are undoubtedly beaver-like and worthy of approbation. Close investigation, however, proves that differences exist. The muskrat lodge, for instance, is constructed of tule and grass stems, cemented with vegetable debris and fibrous muck, and not of sticks and mud. When swimming the tail is habitually used as an aid to propulsion; the beaver's tail serves another purpose. The manner of swimming, though, is identical where feet are concerned, the hind members alone being used. Again, the muskrat's feet are only partially webbed. It has scent glands like the beaver, emitting an odor of musk, hence the name, Muskrat.

The muskrat differs materially from the beaver in the matter of increase, for while the beaver is content with a limit of six "kittens" each year, the muskrat provides as many as ten youngsters at a birth, an occurrence happening two or three times during the warmest months of the year. Again, beavers do not breed until two years old; muskrats born to the first litter of the season reproduce before the snows of winter arrive. No wonder they are plentiful.

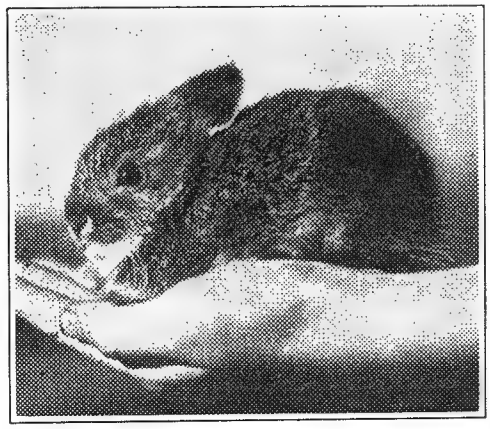
The muskrat is too well known as fur to warrant description, except to say that it possesses a scaly tail, laterally compressed, will measure 25 inches in length, including a ten inch tail, and weigh as much as two lbs.

Fourteen varieties, or sub-species, of muskrats exist in North America (they do not occur native in the Old World) differing only in size and color. Of this number two are common to Manitoba—the Hudson Bay muskrat and the Great Plains muskrat. They are known to science as Ondatra zibethica alba (Sabine) and Ondatra zibethica cinnamomima (Hollister), respectively. The general color of the former is dark brown, and the latter, cinnamon-brown. The Great Plains muskrat is found in the southern part of the province only. The family name of the muskrat is Ondatra.

Hare, Rabbit, Pocket Gopher

TWO hares are common to Manitoba, the Varying hare, represented by three varieties, and the Whitetailed Jackrabbit. In addition, the Cottontail rabbit, a recent arrival from the south, residing in certain parts of the province, may now be included among our local mammals.

Hares and rabbits, although rodents in the strict sense of the word, belong to a different order, Lagomorpha. They are separated because the upper incisor teeth are four in number instead of two, one pair with cutting edges and another pair without cutting edges directly behind them. Hares, or rabbits, belong to the family Leporidoe and have in all 28 teeth. Like the rodents proper they are vegetable eaters and subsist upon a wide variety of plant life.



Young Varying Hare (Summer Pelage)

The Varying hare, better known as the Snowshoe rabbit, is the most notable of the group by reason of inordinate increases in population reaching a peak every nine to eleven years, when disease reduces their numbers, leaving only a few to carry on the race and multiply until seasons of cyclic abundance again occur. Thus, this lowly ceature is an important factor in the lives of many furbearers who rely almost entirely upon its flesh for food. "More rabbits, more fur," is a wilderness truth appreciated through the years, but apparently we have yet to learn that when the Varying hare is plentiful and fur, through overtrapping, is scarce, that a series of circumstances arise which transform a beneficial animal into a veritable pest. This was well illustrated in Manitoba two years ago in areas where furbearers had become nonexistent through unregulated slaughter in the interest of trade aggrandizement. The hordes of Varying hares denied natural control, became super-abundant several seasons before their natural peak, with the result that growing trees of merchantable worth were destroyed to the value of many thousands of dollars. Which all goes to prove that one cannot remove anything from nature, except with discretion, without expecting repercussions, something our limited intelligence has yet to realize, officially and otherwise.

The Varying hare may be distinguished from the Cottontail rabbit by larger size, longer hind legs and larger hind feet. In summer the Varying hare has no white underside to its tail and generally is colored a duller brown. The white underside to

the Cottontail's tail is a distinguishing trade mark and responsible for its name. Unlike the Varying hare, the Cottontail rabbit does not turn white in winter, neither is it an important economic factor in wilderness affairs, mainly because its normal range lies to the south of extensive fur producing areas. Many rabbits alleged to be Cottontails on account of color similarity have been seen or captured in the vicinity of villages and farms in north-central Manitoba. These apparently are crosses between the Varying hare and escaped domestic rabbits, principally the Belgian hare and the Chinchilla rabbit.

The three Manitoba forms of the Varying hare are the common variety peculiar to our northern latitudes, known as Lepus americanus americanus Erxleben, the Minnesota Varying hare, Lepus americanus phaenotus Allen, known in parts of southern Manitoba and the Turtle Mountain Varying hare, Lepus Americanus bishopi (Allen), occurring in

Varying Hare (Winter Pelage)

the Turtle Mountain and vicinity. The local Cottontail rabbit is the Nebraska Cottontail, Sylvilagus floridanus similis Nelson.

There are few prairie dwellers unacquainted with the local White-tailed Jack rabbit, Lepus townsendii campanius Hollister. Its lithe form bounding across the open fields propelled by tremendous leaps from 12 to 20 feet in length is an unforgettable sight unfaded by familiarity. It is perhaps more conspicuous during the winter months when its buffy-grey coat has turned to white with the exception of ear tips of shiny black. A snow-covered field may seem empty of life until one of these hardy creatures leaps from its form and stages an exhibition of its fleetness. There can be no other reason, for no creature should be more confident of an ability to escape from enemies, potential and otherwise. Sometimes in its mad flight it jumps higher than usual, as if by reason of altitude it is enabled to gain a better view of the surroundings This is the well-known "spy hop," a characteristic of Jack rabbits wherever they abide. In contrast, the Varying hare and Cottontail rabbit have no need for speed, because they prefer bushy country or the neighborhood of trees, and are never found on the open prairie.

Among the pests listed by the individual with horticultural or truck garden interests, the Pocket gopher holds a place of high disdain. To find that overnight a favorite flower bed or vegetable patch has suffered through the upheaval of a miniature earthquake with its attending ruin is at least disconcerting and productive of well-merited imprecations against a creature as difficult to see as it is to catch. The irregular series of hills thrown up by the Pocket gopher are often attributed to the mole, an entirely different mammal. In contradistinction to the mole, who forces the earth to one side as it progresses below the surface, the Pocket gopher excavates its burrow and pushes the resulting soil to the top through a series of lateral tunnels, sometimes together but often several feet apart, depending upon what is going on down below. The surface entrance to these tunnels is plugged between journeys to prevent the ingress of enemies The plugged entrance, though, may sometimes be traced by a sunken ring appearing at the mouth On the other hand, the presence of moles is determined by a slight narrow rise in the ground marking the course taken just below the surface, although an occasional mound of earth is thrown up through a vertical tunnel, possibly when fashioning a deep subterranean den.

The Pocket gopher, so named on account of two capacious fur lined cheek pouches on each side of the face, belongs to a family all its own called, Geomyidae, characterized by its members possessing 20 teeth and a tail supplied with tactile nerves, enabling them to proceed backwards and still know what is "ahead". This last endowment is a wise provision for a creature living its life below the ground in a burrow that will not permit turning to reverse direction in the ordinary way. Perhaps this is why the Pocket gopher's slate-colored fur is mole-like and incapable of being rubbed against the grain--specialization to the last degree of accommodation. Their eyes, too, are small, but what use are eyes when darkness perpetually prevails. Sometimes, though, Pocket gophers reach out from their burrows to fill their pouches with vegetation, but it would seem that safety first is the rule, for at least one-third of their bodies remain inside.

The Western Pocket gopher is represented in North America by 80 distinct varieties, of which Manitoba supports two—the Saskatchewan Pocket gopher, Thomomys talpoides talpoides (Richardson), and the

Dakota Pocket gopher, Thomomys talpoides rufescens (Wied). Should one be confused between moles and Pocket gophers when seen at a distance, note that the mole has a pointed snout and the Pocket gopher a blunt one.

The Beaver

FROM among our native animals few will deny to the beaver first place in the hearts of Canadians, young and old. Its adoption as our national animal emblem lends much to a well-merited popularity, but the highly organized state of its existence brims the measure of our affection and pride.

The early history of Canada is, in part, the history of the beaver. To obtain its valuable pelt, trappers and fur companies pushed their way through the unexplored sections of the land and laid the foundation for a later occupation by settlers. Other furbearers contributed to the motive, but the beaver was of first importance.

Many years have elapsed since these intrepid pioneers paved the way for civilization, nevertheless the insistence of mankind in pursuit of fur has continued without abatement. Today the beaver stands with its back to the wall a miserable remnant of a once enormous population.

Beaver

With the exception of the South American capybara—the giant rat of circus fame—the beaver is the largest living rodent. It is a very ancient form of mammalian life, for fossilized remains of the American variety (Castor canadensis) have been found in deposits many thousands of years old, while the European beaver (Coster fiber) was contemporary with Heidelberg man.

Essentially aquatic creatures, beavers require plenty of water for a normal existence and unless they occupy natural ponds or lakes a self-made dam is necessary to create a habitat. Usually built in the valleys of flowing creeks, and more than often below a spring which ensures a supply of water at all times, these strongly made barriers are generally of such shape that natural obstacles can be used to advantage. One dam, however, is not always considered sufficient, for others are built below the main structure possibly as a safeguard again serious leakage and damage by flood. They are utilized for water travel and to float food towards the home pond when the nearby supply is exhausted.

The manner of dam construction is nearly always similar. Sticks and branches of aspen and willow, or whatever light wood is available, are placed as a formation with the butts upstream, Mud, fibrous debris and sometimes gravel and stones carried in the beaver's arms, held tight against the breast, are deposited thereon to weight the interlaced material down and bind it together. Alternate layers finally raise the structure to the desired height. At first the dam leaks, but the lower crevices through which the water trickles are filled with silt carried down by the stream. The crest is made watertight by the beavers and thereafter kept in repair.

Naturally the strongest part of a beaver dam is across the channel of the stream, where a spillway slightly lower than the crest permits the surplus water to flow away. On either side of the spillway the dam becomes gradually lower with the rising elevation of the land until two tiny banks of mud not more than six inches high terminate the structure at each end. In length they may vary from a few feet to a hundred or more, depending upon requirements.

Strange as it may seem, Man was not the first creature to construct a roofed shelter above ground level for himself or family or to appreciate the value and strength of the arch in building construction. In each instance he was forestalled by the beaver, for while ancient members of our race were shivering within the draughty shelter of open caves, this little animal was cosy in a self-made home.

In northern latitudes the beaver house, or lodge, built of the same material as the dam, is generally constructed in water of such depths as will ensure a plentiful supply beneath the ice during the frigid months of winter, so that the tangle of sticks and boughs providently harvested in the fall and sunk deep beneath the surface is readily available for food when the pond is frozen over. Usually a small island or a submerged hummock is selected for a foundation upon which sticks and brush are heaped and weighted down until the mass appears above the water. Upon this later foundation sticks plastered with mud and fibrous debris are heaped in a conical pile. The apex of the cone, however, is composed of sticks alone, through which air circulates when the lodge

is finally complete and fit for habitation. The interior is fashioned not as the work proceeds but from the completed mass. Working beneath the water from the base, the beavers cut a tunnel towards the centre and excavate a dome-shaped "room." Other tunnels are cut for use as emergency exits.

Sometimes lodges are built beside deep water on the banks of ponds and lakes. They are entered through underground tunnels, but if actually at the water's edge by direct communication. Lodges so situated are called "bank" lodges and those surrounded by water are known as "island" lodges.

Beavers have 20 teeth, 16 in the molar group and four orange colored incisors. The highly specialized incisors, peculiar to all rodents, are alone employed for cutting wood and gathering food. They grow continually and must be worn down by perpetual use. The front face of these curious teeth is composed of hard enamel and the remaining part consists of comparatively soft dentine. As the incisors are used, the dentine wears faster than the hard enamel, consequently they always have a sharp chisel edge. Both upper and lower pairs are long and curved with the unexposed portions imbedded to an abnormal depth in the skull and lower jaw.

Swimming is accomplished by the hind feet, which are webbed. The front feet, devoid of connective tissue, are held close to the body during progress through water. Both have five digits terminating in claws, but a peculiarity of the rear members is the construction of the two inner claws of both feet, which, generally speaking are double and, to a certain extent opposable. They are called "combing" claws.

The somewhat cumbersome tail, it is said, makes excellent eating. It does, however, serve in several ways to accommodate the animal itself. It is used for a rudder while swimming. When struck on the surface of the water sufficient noise is produced to serve as an alarm. Often, though, the tail is struck in playful moments for no apparent reason. The tail is quite bare except for minute hairs growing between transverse rows of small scales covering the surface. The average tail measurement of an adult beaver is ten inches long by six inches wide and one and a half inches thick at the junction of the body. The average weight of the beaver is about 40 lbs.

Specialization reaches its zenith to accommodate the habits of the beaver, who spends a great deal of time under water. And so we find that the ears and nostrils are equipped with "valves" that open and close at will. The lips, too, meet behind the incisor teeth to enable their use beneath the surface without discomfort. It is also supplied with oil glands for the purpose of oiling and waterproofing its fur, besides glands that secrete a substance known as castoreum, used, no doubt, as a means of communication when wandering abroad.

So much has been said of the constant toil of the beaver that to many people it is a symbol of tireless industry. As a matter of fact the beaver is not so foolish as to labor all the time. Neither do they use their tails as trowels, sleds to draw stones, and implements for driving stakes. They do not suck the air from wood to make it sink, or purposely fell trees across a stream against which to build a dam. Can one foretell the severity of a coming winter by the thickness of their lodges? Hardly, because the thickness of a beaver lodge varies according to the individuality of the builder. In any event, they become thicker with each passing year as mud and sticks are added to repair the ravages of wind and rain in excess of the actual depreciation.

Beavers are exclusively vegetarian, subsisting almost entirely upon the tender bark and cambium of several varieties of deciduous trees. They also relish various roots, grasses and wild berries.

The home life of the beaver is a model of domestic accord. They are monogamous and mate for life. In Manitoba, the young are born about the end of May or beginning of June, and average from four to six in number. They are known at "kittens" and remain with their parents until the time approaches for the arrival of another increase.

The distribution of the beaver in Manitoba is widely scattered. They occur about settlements, especially in the central part of the province, and occupy streams and rivers without building lodges or dams, preferring for additional protection the sanctuary of the dens burrowed deep in some friendly bank. For this reason they are erroneously called "bank" beavers. Others construct dams without lodges, adapting themselves to the necessities of their environment.

The beaver of Manitoba is known as Castor canadensis canadensis Kuhl. It belongs to the Order, Rodentia. Other local members of the order are: the porcupine, the muskrat, the pocket gopher, the ground squirrels, the flying squirrels and the mice and moles. The beaver's family name is Castoridae.

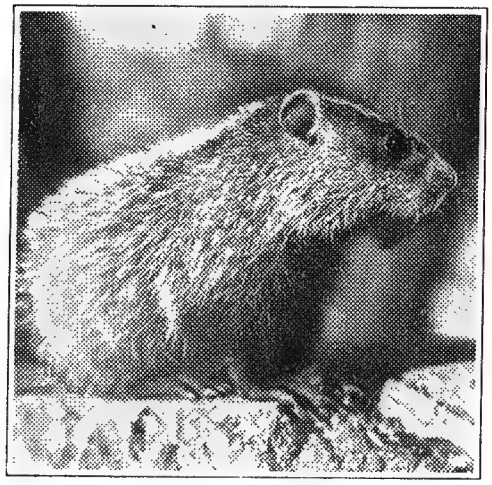
The Squirrels

IT is a natural law that the smaller a creature the larger its population and variety. That is, if suitable territory is available for a habitat. The reason is obvious, for greater numbers are necessary to fill the stomachs of others larger than they, creating a series of food chains through which all sentient life exists.

The largest of the smaller people of the wilds are the squirrels, a group of vegetarian mammals numerous in diversities of size,

form, color and mode of life, a family represented by species that occur from the Rio Grande to beyond the Arctic Circle as dwellers of the ground or denizens of the trees. They all have one thing in common—the possession of 22 teeth with certain characteristics, and this endowment, among other anatomical similarities, is responsible for their assignment to the squirrel family, the Sciuridae.

Manitoba provides a home for the largest of the North American squirrels, the Canada woodchuck, or Ground-hog, and the smallest, the Northern chipmunk. In between we find the Red squirrel, the Hudson Bay Flying squirrel, the Pale Flying squirrel, the Hudson Bay Ground squirrel, the Richardson Ground squirrel, the Franklin Ground squirrel, the Thirteen-striped Ground squirrel and the Eastern Grey chipmunk. All are prolific breeders. So much so that were it not for the fact that they form a food supply for countless hunters, feathered and furred, their populations would quickly over-run the forest and countryside to the detriment of agriculture and other interests, a truth that is generally overlooked when advocating the ruthless destruction of hawks, owls and other valuable predators to satisfy the demands of those without knowledge of nature's immutable laws.



Canada Woodchuck

The Woodchuck, a ground dweller, common to certain areas of Manitoba, has sprung to fame in story and myth. This plump reddish-brown denizen of wood piles and clearings is responsible for Ground-hog Day, February 2, when it is alleged it awakens from a winter sleep to see if the sun is shining. Should the woodchuck see its shadow it returns to its den for an additional six weeks slumber. All of which is supposed to mean that an open February forecasts a late, cold spring? In any event the woodchuck is a welcome sight after many months of snow, sunning itself at the head of a deep burrow. It is a worthy addition, too, to our long list of native mammals, even though it may be destructive at times to garden patches, or dig holes where holes should not occur. The woodchuck of Manitoba is Marmota monax canadensis (Erxleben).

The Red squirrel is almost too well known as an adorable nuisance about summer campsites, where nothing is safe from its destructive teeth, to warrant a waste of descriptive words. Its cousin, though, the Flying squirrel, is seldom seen because it sleeps during the day and moves around only at night—a pretty thing with soft grey fur and flat, broad, bushy tail and eyes, large and round, to aid nocturnal excursions. It does not fly as its names suggests, but rather glides from tree to tree by means of lateral folds of skin occuring from the wrist, where a stiffening rod exists, to the ankle on either side. The folds are extended when the feet are outstretched and the squirrel drops in a glide, assisted by elevating properties of the tail, towards its objective often many feet away, rising slightly towards the end of the flight when it grasps a friendly branch.

Although the Red squirrel hibernates during severe spells of cold weather, the Flying squirrel is active throughout the year. Their food is much the same, but the Flying squirrel is not prone to store up larders of provender against a "rainy" day after the manner of its Red cousin. The Red squirrel of Manitoba is Sciurus hudsonicus hudsonicus (Erxleben), the Hudson Bay Flying squirrel, Glaucomys sabrinus sabrinus (Shaw) and the Pale Flying squirrel, Glaucomys sabrinus canascens Howell. The scientific name of all Flying squirrels, Glaucomys volans, means "The Grey Mouse that Flies." Both Red and Flying squirrels are tree dwellers and never found far from the forest or the vicinity of trees.

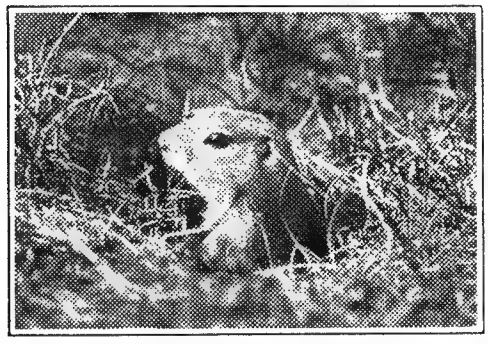
The Ground squirrels are another familiar group wherever open or semi-open areas exist, so much so that they seem as much a part of the countryside as the flowers and birds. Neither is the northern part of the province neglected, for even in the latitude of Fort Churchill a fat husky fellow like the common gopher of the plains manages to live and prosper. This is the Hudson Bay Ground squirrel, Citellus parryii parryii (Richardson), sometimes known as the northern gopher. The three other forms occur to the south, the Richardson Ground squirrel, or Flickertail, Citellus richardsonii (Sabine), the Thirteen-striped Ground squirrel, or Striped gopher, Citellus tridecemlineatus tridecemlineatus (Mitchill) and the Franklin Ground squirrel, or Grey gopher, Citellus franklini (Sabine). The yellowish coloration of the

Flickertail provides immediate identification. The Striped gopher, too, is easily recognized by its yellowish, spotted, stripes, while the Grey gopher's suggestive pelage allows no doubt to exist as to what form its represents. The first three dwell in burrows excavated

Red Squirrel

in the open; the Grey gopher, though, prefers the shelter of some brush pile or thicket beneath which it digs a shallow den. All hiberate during the winter season, storing up supplies of food upon which to subsist when awakening or until such time as the verdure of spring provides a generous supply of vegetation.

The last of the local Ground squirrels, the chipmunks, while essentially land dwellers, are not adverse to climbing about the branches of shrubs and sapling trees. They



Richardson Ground Squirrel

belong to the forests and woodlands and are never found on the open plains.

The Grey Eastern chipmunk, Tamias striatus griseus Mearns, is not so well known as its smaller cousin, the Northern chipmunk, Eutamias minimus borealis (Allen), mainly because its distribution is confined to the wooded areas of eastern and central Manitoba, while the Northern chipmunk occurs wherever forests exist. Both these agile creatures may be readily identified by their color pattern—five blackish stripes running from the shoulder to the rump, wider and more noticeable in the Eastern Grey variety which is almost twice the size. Long bushy tails held erect when in flight, a cheery whistle of curiosity and oftimes a chatter of apprehension, aid the wild life enthusiast in his quest for knowledge. Both hibernate when winter comes in a cosy nest below the ground and also put away a store of food assiduously gathered in the fall. A forest without these little people would indeed be dull.

Whales and Porpoises

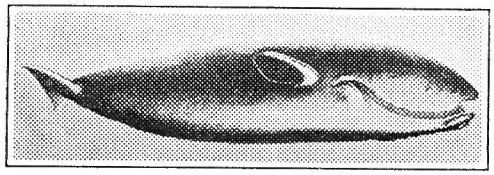
"THERE she blows." "Where away?" "Three points off the lee bow, sir." "Raise up your wheel. Steady!" "Steady, sir."

Words like these, sung out on salty air, were not unknown within the present borders of Manitoba before the province became maritime, for the whalers of other days hunted our Arctic sea for baleen. Tons of blubber. too, were reduced to oil in a whale ship's smoky "try works," oil bound for Scottish ports and rendered by Scottish sailormen before steam ousted the windjammer from the Seven Seas. Many a whale was "cut in" beside some barnacle-covered hull not far east of where Churchill is today, and although their numbers were reduced almost to the point of extinction we like to believe that part of the remnant journey inside our northern boundary during their incessant wandering. Cetaceans we have, of the smaller kind. It is Leviathan we wish to include in Manitoba's fauna, and well we may without direct knowledge of their presence, for whales of note are seldom seen unless one seeks them.

Cetaceans, large and small, have certain characteristics in common. They are lung breathers and give birth to living young nursed at the breast in the manner of land mammals, which once they were in days when the presence of man on earth was a promise yet to be fullfilled. Vestiges of hind limbs remain concealed beneath the skin, and flippers cover the bones of fingers with phalanges like the fingers of a man. The young of the baleen, or whalebone whales, have both milk and permanent teeth imbedded in the jaws, but they are absorbed before birth. Further proof that whales were not always what they are today. What caused these creatures to take to water we will never learn. We do know, however, that once

they walked, and that their original limbs were modified into paddles and their hind limbs, for want of use, became non-existant with the passing of time.

Whales and porpoises, and porpoises are really a kind of whale, swim with their tail, or flukes, aided by the fore limbs, or flippers. The plane of the tail while fish-shaped, is lateral, not vertical like that of a fish. Breath-



Atlantic Right Whale

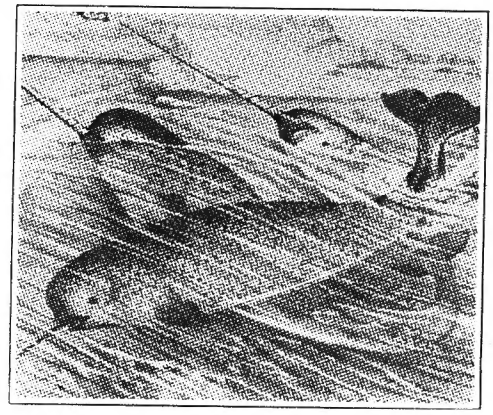
ing is accomplished through valve-like nostrils, or spiracles, situated near the crown of the head. Their eyes are small and there is no external ear. The young are born beneath the waves. This much we know, and more. Nevertheless, our knowledge of these interesting mammals is very slight. Whales and porpoises are assigned to the order, Cetacea.

The whales we believe to exist in Manitoba Arctic waters are the Atlantic Right whale, Eubalaena glacialis (Bonaterre), a black fellow about 50 feet long and weighing many tons, and the Bowhead whale, Balaena mysticetus Linnaeus, a similar colored creature 60 feet long, with a head more than one-third the total length of the body. Both belong to the family, Balaenidae. They are characterized by the presence of baleen in place of teeth and the possession of two spiracles instead of one common to the toothed whales.

Baleen consists of fringed horny plates suspended from the upper jaw when the mouth is open, and folded back when the mouth is closed. It is some 10 to 12 feet in length and the number of plates in each side of the jaw is about 400, weighing from 1,000 to 3,000 lbs. Baleen is, or was, the whalebone of commerce, but to the Baleen whale it is of more importance, for it is used as a vast sieve to entrap small marine life floating about the surface of the sea which is their only food. Baleen whales have been known to descend a vertical distance of 5,000 feet, at which depth they sustain a pressure of nearly 140 tons to every square foot of their bodies, a feat made possible, no doubt, by the thick blanket of blubber which also conserves their body heat. No submarine could descend to this depth. It would be crushed like an empty can long before the objective was reached. There are some things in nature we cannot duplicate—the flight of a bird and the submarine activities of the whale.

We are sure, though, of possessing two species of cetaceans, belonging to the family, Delphinidae, and the sub-order, Odontoceti, the toothed whale. The best known is the White whale, or Beluga, Delphinapterus leucas (Pallas), white in color and measuring between 11 and 12 feet in length. Several specimens of this mammal captured at Churchill were exhibited in Winnipeg some time ago whence they were taken to determine their commercial value. The other is the Narwhal, Monodon monoceros Linnaeus, a member of the same family. dark grey above and white below, measuring some 12 feet in length. The males of this species are endowed with a long, spiral, ivory tusk protruding from the left side of the upper jaw which may measure from seven to eight feet in length, but for what purpose it is employed is a matter of conjecture. The nostrils of these forms has but a single aperture or spiracle, a characteristic peculiar to all toothed cetaceans.

With the description of the Narwhal we close the list of Manitoba mammals To say that every form is included would border upon extreme presumption for stragglers of other species or sub-species from the east, west and south arrive within our borders from time to time. These strangers may become permanently established. Usually, though, they are represented by a single individual, a truant from home, or some specimen escaped from captivity. The dangers of generalization are also appreciated because laws are sometimes more difficult to interpret when they emanate from a wilderness code. Animal behaviorism, too, may vary with individuals much as it does with men. Exceptions to every rule exist.



Narwhal

Throughout the text is the plaint of scarcity, the suggestion that many of our mammals are becoming extinct through commercial or recreational exploitation. Unfortunately, this is irrefutably correct and brought about by our failure to realize that our wilderness areas are exhaustable. The virtual extinc-

tion of many of our furbearing mammals is only too well emphasized by the increasing product of the fur farm, designed to supply what the forest can no longer give in sufficient volume to satisfy the demands of trade. Our game animals are similarly exploited without thought of the future to foster provincial aggrandizement beyond our borders and attract sportsmen from afar to share the crumbs of destruction. In one hundred years many forms of local wild life will be conspicuous by their absence. But what matter. We will not be present to witness the ultimate result of our greed and lack of understanding, or receive the just condemnation of future generations lamenting the theft of a heritage held in trust. Today is all that matters; tomorrow may never come.

The End.